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feed seed fertilizer REPORT 1977

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THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF FOOD AND AGRICULTURE
Frederic Winthrop, Jr., *Commissioner*

UNIVERSITY OF MASSACHUSETTS
AGRICULTURAL EXPERIMENT STATION
Ross S. Whaley, *Director*

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF FOOD AND AGRICULTURE
BOSTON, MASSACHUSETTS

Frederic Winthrop, Jr., *Commissioner*
James M. Cassidy, *Control Official*

Summary Inspection REPORT of Official Samples on FEED, SEED, & FERTILIZER Fiscal Year 1977

UNIVERSITY OF MASSACHUSETTS
AGRICULTURAL EXPERIMENT STATION
ROSS S. WHALEY, DIRECTOR

Publication #10590-72-1000-6-78-CR
Approved by Alfred C. Holland, State Purchasing Agent

PREFACE

This publication consists of reports of the work assigned to the Massachusetts Agricultural Experiments Station by authority of the Feed Act (General Laws, Chapter 128, Sections 51 to 63 inclusive), the Seed Act and Liming Materials Act (General Laws, Chapter 128, Sections 64 to 83 inclusive).

Included are Feed Report (Number 84) for the year 1977, General Materials Report (Number 5) for the year 1977, Seed Laboratory Report (Number 50) for the year 1977 and the Fertilizer and Liming Materials Report (Number 104) for the year 1977.

For information concerning this report or the analyses of feeds, seeds, fertilizers, liming materials, and soils, and for information concerning certification of milk fat testing equipment and certification of operators of milk fat testing equipment, please write to:

Associate Professor in Charge
Feed, Seed, and Fertilizer Laboratory
University of Massachusetts
Amherst, Massachusetts 01003

Regulatory Information:

Feed, Seed, Fertilizer Control Official: Regestration of feed, fertilizer and liming products write to:

Control Official
Massachusetts Department of Food and Agriculture
100 Cambridge Street
Boston, Massachusetts 02202

Telephone: 617 - 727-3018

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Kenneth S. Williams, Jr. - Market Investigator

INSPECTION OF COMMERICAL FEEDSTUFFS

Report Number 84 For Fiscal
Year Ending June 1977

by the Feed, Seed, and Fertilizer Staff of

the Feed, Seed, and Fertilizer Laboratory

West Experiment Station, Amherst, Massachusetts

UNIVERSITY OF MASSACHUSETTS
COLLEGE OF FOOD AND NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION

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1976-1977
Brands Substantially Complying with Guarantees
Protein, Fat, and Fiber Analyses

Manufacturer & Brand	Number of Samples Analyzed
Agway, Incorporated	
Agway Ratio-Right (Protein 13%)	2
Agway Ratio-Right (Protein 16%)	22
Agway Ratio-Right (Protein 20%)	7
Agway Ratio-Right (Protein 15%)	1
Agway Hog Feed (01)	18
Agway Sow Feed	14
Agway TCR #2	9
Agway TCR #1	13
Agway Choice	16
Agway Big Red Special Rabbit Pellets	8
Agway Hominy Feed	4
Agway 48% Soybean Meal	3
Agway 85% Concentrate for Cows	1
Agway Trim	3
Agway Nu-Cashmaker 16	24
Agway Nu-Cashmaker 18	2
Agway Pace Maker Starter	10
Agway 37% Hog Concentrate	4
Agway Layer Pellets	7
Agway Complete Grower	18
Agway Broiler Finisher	2
Agway 40% Mixer	2
Agway 16% Pig Feed	7
Agway Pig Starter Pellets	2
Agway Game & Turkey Grower	8
Agway Game & Turkey Starter	2
Agway Game & Turkey Breeder	1
Agway Game & Turkey Finisher	7
Agway Big Red Burger	1
Agway Blue Label Milk Replacer	2
Agway Red Label Milk Replacer	2
Agway Rough X-9	1
Agway Fulpail 20	1
Agway Early Market Lamb Pellets	2
Agway Inc. (Cont'd)	
Agway Complete Horse Feed Pellets	2
Agway Broiler Marketer	2
Agway Complete Developer	2
Agway Hi-Standard for Horses	1
Agway Top Dress Pellets	1
Agway Ratio-Right 500 16%	1
Agway Broiler Starter	1
Agway Calf Grower	1
Agway Buxmont 40	1
Agway Squealer Pellets	1
Agway Respond	1
Agway Sho-Glo	1
Agway Strike	1
Albers Milling Company	
Albers Calf Manna	1
Albers Veal-Glo	1
Allied Chemical Company	
Compensation PR Liquid Feed Supplement	1
Compensation Liquid Feed Supplement	1
Wayne Ruff'N Redi	1
Wayne Guinea Pig Diet	2
Wayne Rabbit Ration	2
Wayne Tall Curler Junior	1
Wayne Dog Food	1
The Amburgo Company, Inc.	
SWP Mix for Feed Mixing Only	1
B&M Milling Company	
Bay-Mor Economy Breeder	1
Barber & Bennett Incorporated	
Fort Orange Automatic Egg Pellets	6
Fort Orange All Mash Grower	3
Fort Orange Game & Turkey Flyer	2
Fort Orange Pig & Hog Feed	2
Fort Orange Game & Turkey Breeder	1
Fort Orange Game & Turkey Starter	1

1976-1977
Brands Substantially Complying with Guarantees
Protein, Fat, and Fiber Analyses

Manufacturer & Brand	Number of Samples Analyzed
Barber & Bennett Inc.(Cont'd)	
Fort Orange Pig Starter Pellets	1
Fort Orange Game & Turkey Grower (Pellets)	1
Fort Orange Complete Rabbit Pellets	1
Beacon Milling Company	
Nutrina Top Hog 14 Pellets	1
Nutrina Top Hog 16 Pellets	1
Nutrina Pig Starter Pellets	1
Beacon "20" Turkey Grower	1
Beacon Turkey Starter	1
Beacon Pullet Developer	1
Beacon Turkey Finisher	1
Beacon Duck Developer	1
Beacon Hi-Lay Mash	1
Beacon Hi-Lay Pellets	1
Beacon Lacto Pels 16	1
Beacon Milkline 16	1
Beacon Hog Feed	2
Beacon Rabbit Pellets	1
Beacon 20 Turkey & Game Bird Grower	1
Nutreana Sow 15	1
Beacon Chick Starter	1
Beacon Classic Horse Feed	1
Beacon Egg Mate	2
Bernardston Grain Company	
Excel Fitting Ration	2
Excel 16 Dairy Ration	2
Horse Feed with Molasses	2
Starter & Grower	2
Excel Laying Mash	1
Best Feeds Farm Supplies Inc.	
Best Feeds Kibbled Dog Food	1
Joy Dog Food Special Meal	1
Carnation Company	
Little Friskies High Protein Cat Dinner	1
The Coca-Cola Company	
Golden Isle Citrus Pulp	1
8 in 1 Products Incorporated	
8 in 1 Parakeet Woodland Mix	1
8 in 1 Canary Acti-Zyme	1
John W. Eshelman & Sons	
Red Rose Farrowing Ration	1
Red Rose Stock Feed Pellets	1
Red Rose 16 Turkey Finisher	1
Red Rose Hog Supplement	1
Red Rose Rabbit Family Ration Pellets	3
Red Rose Round-Up Horse Feed	3
Steamed Flaked Oats	4
Red Rose Egg Maker	3
Red Rose Dog Nuggets	1
Red Rose Porker	1
Red Rose Challenge 16 Dairy Pellets	1
Red Rose Pennsy 16 Dairy Feed	1
Red Rose Screened Cracked Corn Medicated	1
Red Rose Intermediate Chick Grains	1
Farm Bureau Association	
Farm Bureau Complete Developer	7
Farm Bureau Pig Starter & Grower	6
Farm Bureau Chick Starter Mash	4
Farm Bureau Rabbit Food Pellets	7
Farm Bureau Turkey Finisher	4
Farm Bureau Hog Supplement	4
Farm Bureau Complete Producer	10
Farm Bureau Dairy 16 Test	2
Farm Bureau Complete Horsefare Pellets	5
Farm Bureau Turkey Grower	2
Farm Bureau Milkers 16 Pellets	2
Farm Bureau Advancer Dairy 16	1
Farm Bureau Advancer Dairy 20	1
Farm Bureau Turkey Starter	1
Farm Bureau Scratch Feed	1
Farm Bureau Winter Sweets	1
Farm Bureau October Farms Special	1
Farm Bureau Milk Replacer	1
Farm Bureau Turkey Developer	1

1976-1977
Brands Substantially Complying with Guarantees
Protein, Fat, and Fiber Analyses

Manufacturer & Brand	Number of Samples Analyzed
Geisler Pet Products, Inc.	
Geisler Hamster Treat	1
General Foods Corp.	
Gaines Biscuits, Complete Dog Food	1
Gro-Kote, Incorporated	
Clarko Slivers, A Tasty Dog Treat	1
International Milling Co., Inc.	
Black Hawk Wheat Middlings with Ground Wheat Screenings	1
Jaquith & Company	
Jaquith Pelleted Laying Mash	4
Jaquith Horse Feed	2
Jaquith Rabbit Pellets	1
Jaquith Growing Mash	1
Farmers Feed Company	
Brewers Dried Grains	1
Knauf & Tesch	
Kaytee Flying Pigeon Feed	1
Kaytee Breeder & Conditioner Pigeon Feed	1
Kaytee Race Conditioning Pigeon Feed	1
Kaytee Parrot Mix	1
Kaytee Rabbit Pellets	1
LaCrosse Milling Co.	
Whole Oat Groats	1
Loft Kellog, Incorporated	
Kellogs Petamine Bird Diet	1
Martin's Feed Mills Inc.	
20 Bench & Field Dog Food	1
26 Bench & Field Dog Food	1
Bench & Field Dog Food	1
Bench & Field Puppy Food	1
Metaframe Corp.	
Living World Habitrail Hamster-Gerbil Food	2
Nabisco Incorporated	
Milk Bone Flavor Snacks	1
Milk Bone Dog Biscuits	1
National Pet Food Corporation	
Golden Choice High Protein Dog Meal	1
Golden Choice Chunk Style Dog Food	1
Golden Choice Dog Meal	1
Sport Mix Chunk Style Dog Dog Food	1
Old Mother Hubbard Dog Food Co.	
O.M.H. Puppy Meal	1
O.M.H. Hi-Protein Hi-Fat Kibbled Dog Meal	1
O.M.H. Kibbled Dog Meal	1
Ohio Blenders Incorporated	
Big Ohio Dehydrated Alfalfa Meal	1
Orleans Packing Company	
Lolli-Pups Large Dog Biscuits	1
Phenix Flour Limited	
Wheat Bran	2
G.D.Poultry Company	
Rabbit Pellets	2
Chick Starter	2
16% Layer Feed	2
Pullet Developer	1
16% Fitting Ration	1
14% Fitting Ration	1
Soybean Oil Meal	1
Super 16% Dairy Feed	1
Hog Feed	1
Horse Feed	1
Quaker Oats Company	
Ken-L-Ration Treats Dog Biscuit	1
Puss'N Boots Moist Meals	1

1976-1977
Brands Substantially Complying with Guarantees
Protein, Fat, and Fiber Analyses (Cont'd)

Manufacturer & Brand	Number of Samples Analyzed
Ralston Purina Co.	
Purina Layena	9
Purina Mouse Chow	2
Purina Omolene	5
Purina Kit-Maker	1
Purina Guinea Pig Chow	3
Purina Big 'Un For Foals	2
Purina Turkey Growena	7
Purina Chick Startena	2
Purina Chick Growena	4
Purina Turkey Marketer	3
Purina Trout Chow	1
Purina Turkey Startena	4
Purina Pig Startena	2
Purina Fur Maker	1
Purina Rabbit Chow Checkers	7
Purina Game Bird Breeder Layer	1
Purina Horse Chow Checkers	5
Purina Commercial Hog Finisher	4
Purina Pig Growena	3
Purina Game Bird Startena	1
Purina Game Bird Flight Conditioner	1
Purina Pigeon Chow Checkers	1
Purina Stock Chow	2
Purina Dairy Plus	1
Purina Turkey Finisher	1
Purina Chicken Chowder	1
Purina High Protein Dog Meal	1
Purina Trout Chow	1
Purina Dairy Conditioner	1
Purina Kitten Chow	1
Purina Dog Chow Beef & Egg Flavor	1
Purina Dog Chow Liver Flavor	1
Purina Checkerboard Dairy Checkers	1
Purina Fur Maker Mink	1
Purina Field & Farm Dog Meal	1
Purina Whisker Lickins For Cats	1
Purina Calf Growena	2
Ralston Purina Co. (Cont'd)	
Purina Meow Mix Complete Meal for Cats	2
Purina Puppy Chow	2
Purina Calf Startena	2
Purina Chuck Wagon Dog Food	2
Purina Laboratory Chow	2
Rytman Grain Company	
Ryt-Span Hi-Energy 16 Dairy Pellets	5
Ryt-Span Hi-Energy 20 Dairy Pellets	3

Brands Not Conforming to Guarantees

Manufacturer & Brand	Protein Guar.	Protein Found	Fat Guar.	Fat Found	Fiber Guar.	Fiber Found	Mis-branded
Agway Incorporated							
Agway Game & Turkey Grower Pellets..	21.	19.5**	---	---	---	---	
Agway Game & Turkey Grower Pellets..	21.	19.9**	---	---	---	---	
Agway Game & Turkey Grower Pellets..	21.	19.6**	---	---	---	---	
Agway 40% Mixer Pellets	40.	33.6**	---	---	---	---	
Agway 40% Mixer Pellets	40.	37.7**	---	---	---	---	
Agway Hog Concentrate Pellets	37.	33.1**	---	---	---	---	
Agway Hog Concentrate Pellets	37.	34.5**	---	---	---	---	
Beacon Milling Company							
Beacon Milkline "20"	20.	18.3**	---	---	---	---	
Beacon Dairyman's Choice	16.	14.4**	---	---	---	---	
Beacon Broiler Finisher	20.	16.4**	---	---	---	---	
Bernardston Grain Company							
Excel Laying Mash...	19.	17.8**	---	---	---	---	
John W. Eshelman & Sons							
Red Rose Pig Grower Pellets	16.	14.9**	---	---	---	---	
Farm Bureau Association							
Farm Bureau 32% Dairy Supplement	32.	24.8**	---	---	---	---	
Farm Bureau Layer Breeder Med.....	20.	18.2**	---	---	---	---	
Farm Bureau Turkey Starter	30.	28.8**	---	---	---	---	
Farm Bureau Turkey Starter	30.	28.8**	---	---	---	---	
Farm Bureau Dairy 16 Test	16.	13.6**	---	---	---	---	
Farm Bureau Turkey Finisher	16.	14.7**	---	---	---	---	
Farm Bureau Chick Starter Medicated	20.	17.8**	---	---	---	---	
Farm Bureau Complete Developer	15.	13.6**	---	---	---	---	

Brands Not Conforming to Guarantees (Cont'd)

Manufacturer & Brand	Protein Guar.	Protein Found	Fat Guar.	Fat Found	Fiber Guar.	Fiber Found	Misbranded
Jaquith & Company							
Jaquith 18 Dairy Ration	18.	15.4**	---	---	---	---	
Jaquith Horse Feed	12.	10.1**	---	---	---	---	
Loft-Kellog, Inc.							
Kellogg's Parrot Food	20.	17.6**	---	---	---	---	
Old Mother Hubbard Dog Food Company							
Scottie Pet Food All Beef	---	---	---	---	---	---	1
Scottie Pet Food All Chicken.....	---	---	---	---	---	---	1
Old Mother Hubbard Meal Treat for Cats	---	---	---	---	---	---	1
Old Mother Hubbard Meal for Dogs..	---	---	---	---	---	---	1
Old Mother Hubbard Large Bone Dog Meal	24.	21.5**	---	---	---	---	
Old Mother Hubbard Kibbled Biscuits	24.	22.1**	---	---	---	---	
G.D.Poultry Company							
Rabbit Pellets....	20.	18.3**	---	---	---	---	
Rytman Grain Company							
Ryt-Span Hi-Energy 16 Dairy Pellets	16.	14.9**	---	---	---	---	

**OUT OF TOLERANCE

Feeds Containing Vitamins

Manufacturer & Brand	Vitamin	USP units/lb. Guar.	USP units/lb. Found	mg/lb. Guar.	mg/lb. Found
Agway Incorporated					
Agway Blue Label Milk Replacer.....	A	20,000	21,065	---	---
	Choline Chloride			1200	1961
Agway Red Label Milk Replacer	A	20,000	23,608	1200	1688
Albers Milling Company					
Albers Veal-Glo	A	30,000	25,424	---	---
Albers Calf Manna	A	20,000	27,240	---	---
Allied Chemical Company					
Compensator PR Liquid Feed Supplement	A	30,000	42,131	---	---
Compensator Liquid Feed Supplement	A	30,000	39,590	---	---
Wayne Ruff'N Redi	A	2,570	2,270	---	---
Farm Bureau Association					
Farm Bureau Milk Replacer	A	15,000	15,000	---	---
Farm Bureau Dairy 16 Test	A	6,000	15,250	---	---
Farm Bureau Dairy 20 Test	A	6,000	2,724**	---	---
Martin's Feed Mills Incorporated					
Bench & Field 20 Dog Food	A	8,000	16,500	---	---
Bench & Field 20 Dog Food	A	17,600	21,700	---	---
Bench & Field 26 Dog Food	A	17,600	20,000	---	---
Bench & Field Puppy Food	A	12,000	6,129**	---	---
Ralston Purina Company					
Purina Dairy Plus	A	1,000,000	1,098,680	---	---

**Out of Tolerance

Feeds Containing Drugs

Manufacturer & Brand	Drug	Guaranteed	Found
Agway Incorporated			
Agway Red Label Milk Replacer	Chlortetracycline	100 g/T	104 g/T
Agway Blue Label Milk Replacer	Oxytetracycline	100 g/T	100 g/T
Agway Blue Label Milk Replacer	Oxytetracycline	100 g/T	95 g/T
Agway Pacemaker Starter	Amprolium	.004%	.0052%
Agway Pacemaker Starter	Amprolium	.004%	.0050%
Agway Pacemaker Starter	Amprolium	.004%	.0040%
Agway Pacemaker Starter	Amprolium	.004%	.0041%
Agway Pacemaker Starter	Amprolium	.004%	.0043%
Agway Pacemaker Starter	Amprolium	.004%	.0046%
Agway Pacemaker Starter	Amprolium	.004%	.0036%
Agway Pacemaker Starter	Amprolium	.004%	.0047%
Agway Pacemaker Starter	Amprolium	.004%	.0048%
Agway Broiler Finisher	Amprolium	.0125%	.0107%
Agway Broiler Finisher	Amprolium	.0125%	.0108%
Agway Game & Turkey Starter	Sulfaquinoxaline	.0175%	.0179%
Agway Game & Turkey Starter	Sulfaquinoxaline	.0175%	.0130%**
Albers Milling Company			
Albers Veal-Glo	Oxytetracycline	100 g/T	95 g/T
Allied Mills Incorporated			
Wayne Tail Curler Junior	Chlortetracycline	100 g/T	96 g/T
	Sulfamethazine	.011%	.0093%
	Penicillin	50 g/T	30 g/T**
Barber & Bennett Inc.			
Fort Orange Game & Turkey Starter....	Zoalene	.0125%	.0126%
Beacon Milling Company			
Nutreana Top Hog 14...	Bacitracin	20 g/T	11.8 g/T**
Nutreana Top Hog 16...	Chlortetracycline	50 g/T	50 g/T
Nutreana Pig Starter...	Arsanilic Acid	.009%	.0073%
Nutreana Pig Starter...	Chlortetracycline	100 g/T	84 g/T
	Sulfamethazine	.011%	.0115%
	Pencillin	50 g/T	48 g/T

**Out of Tolerance

Feeds Containing Drugs (Cont'd)

Manufacturer & Brand	Drug	Guaranteed	Found
Beacon Milling Co. (cont'd)			
Beacon "20" Turkey Grower	4-Nitrophenylarsonic Acid	.01875%	.0135%
Beacon Turkey Starter	Amprolium	.0125%	.0125%
Beacon Pullet Developer	Amprolium	.0125%	.0115%
John W. Eshelman & Sons			
Red Rose Hog Supplement	Bacitracin	72 g/T	55 g/T
Red Rose 16 Turkey Finisher Pellets	Carbarsone	.0375%	.0321%
Red Rose Farrowing Ration	Chlortetracycline	100 g/T	87 g/T
	Penicillin	50 g/T	39 g/T
Farm Bureau Association			
Farm Bureau Milk Replacer	Chlortetracycline	50 g/T	59 g/T
Farm Bureau Hog Supplement	Bacitracin	25 g/T	22.7 g/T
Farm Bureau Hog Supplement	Bacitracin	25 g/T	11 g/T**
Farm Bureau Hog Supplement	Bacitracin	25 g/T	16 g/T
Farm Bureau Hog Supplement	Bacitracin	25 g/T	18 g/T
Farm Bureau Rabbit Food Pellets	Sulfaquinoxaline	.025%	.022%
Farm Bureau Rabbit Food Pellets	Sulfaquinoxaline	.025%	.0195%
Farm Bureau Rabbit Food Pellets	Sulfaquinoxaline	.0125%	.0190%
Farm Bureau Rabbit Food Pellets.....	Sulfaquinoxaline	.0125%	.0182%
Farm Bureau Chick Starter Mash	Amprolium	.005%	.0054%
Farm Bureau Chick Starter Mash	Amprolium	.005%	.0068%
Farm Bureau Chick Starter Mash.....	Amprolium	.005%	.0062%
Farm Bureau Chick Starter Mash.....	Amprolium	.005%	.0055%
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	16 g/T
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	20.4 g/T
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	23.8 g/T

**Out of Tolerance.

Manufacturer & Brand	Drug	Guaranteed	Found
Farm Bureau Association (Cont'd)			
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	18 g/T
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	13.5 g/T**
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	11 g/T**
Farm Bureau Complete Developer	Amprolium	.005%	.0055%
Farm Bureau Complete Developer	Amprolium	.005%	.0051%
Farm Bureau Complete Developer	Amprolium	.005%	.0091%
Farm Bureau Chick Starter	Amprolium	.005%	.0054%
G.D.Poultry Company			
Chick Starter A.....	Amprolium	.0125%	.0080%**
Chick Starter	Amprolium	.0125%	.0150%
Ralston Purina Company			
Purina Rabbit Chow Checkers	Sulfaquinoxaline	.025%	.0200%
Purina Turkey Startena..	Amprolium	.0125%	.0115%
Purina Turkey Startena..	Amprolium	.0125%	.0121%
Purina Turkey Startena..	Amprolium	.0125%	.0120%
Purina Chick Growena....	Furazolidone	.0055%	.0064%
Purina Chick Startena...	Zoalene	.0083%	.0102%
Purina Turkey Growena #2	Carbasone	.0281%	.0271%
Purina Turkey Growena #2	Carbasone	.0281%	.0264%
Purina Turkey Growena #2	Carbasone	.0281%	.0284%
Purina Turkey Growena #2	Carbasone	.0281%	.0286%
Purina Turkey Growena #2	Carbasone	.0281%	.0268%
Purina Turkey Growena #1	Amprolium	.0125%	.0118%
Purina Turkey Growena #1	Amprolium	.0125%	.0118%

**Out of Tolerance

FEED REGISTERED IN STATE OF MASSACHUSETTS:

Acme Evans Co., Div. General Grain Inc., 902 W. Washington Ave., Indianapolis, IND 46204
ADP Inc., P.O. Box 1809, Delta Dr., Gainesville, GA 30501
ADM Processing Co., A Div. of Archer Daniels Midland Co., P.O. Box 1470, Decatur, IL 62525
Agricultural & Veterinary Products Div., Abbott Laboratories, 1400 Sheridan Rd., North Chicago, IL 60064
Agway Inc., Box 1333, Syracuse, New York 13201
Also: Country Foods, A Div. of Agway Inc.
Albers Milling Co., Inc., A Division of Carnation Co., 5045 Wilshire Blvd., Los Angeles, CA 90036
Allen Products Co., Inc., P.O. Box 2187, RD #3, Allentown, PA 18001
Allied Chemical Corp., Agricultural Division, P.O. Box 2120, Houston, Texas 77001
Allied Foods Inc., 1450 Hills Place, N.W., Atlanta, GA 30318
for: Hy-Top Products, A Div. of Federated Foods Household Products Co.

Allied Mills Inc., Chicago, Illinois 60606
Also: P.O. Box 459, Libertyville, IL 60048
American Crystal Sugar Company, 101 North Third St., Moorehead, MN 56560
American Cyanamid Co., P.O. Box 400, Princeton, N.J. 08540
American Hoechst Corporation, Agricultural Division, Route 202-206 North, Somerville, New Jersey 08876
American Maize Products Co., 113th & Indianapolis Blvd., Hammond, IN 46326
Amway Corporation, 7575 E. Fulton Rd., Ada, Michigan 49355
The Andersons, P. O. Box 119, Maumee, Ohio 43537
Anheuser-Busch, Inc., 721 Pestalozzi St., St. Louis, MO 63118
Animal Nutrition Inc., 6608 W. Main St., Belleville, IL 62223
Archer-Daniels-Midland Company, P.O. Box 1470, Decatur, IL 62525
Arizona Feeds, P.O. Box 5526, Tucson, Arizona 85703
A&R Pet Food Company, Inc., 91 Holt St., Buffalo, N.Y. 14206
Armour-Dial Inc., Greyhound Tower, Phoenix, Arizona 85077
Atlantic Feed Produts Corp., 286 Secaucus Rd., Secaucus, N.J. 07094
Aquarium Supply Co., 600 South 4th Street, Harrison, N.J. 07029

H.J. Baker & Bro., Inc., Agents for Connors Bros. Ltd., 360 Lexington Ave., New York, N.Y. 10017
Barber & Bennett Inc., Box 430, Port of Albany, Albany, N.Y. 12201
Barzen of Minneapolis, Inc., P.O. Box 1123, Minneapolis, MN 55440
Bay State Milling Co., 707 Grain Exchange, Minneapolis, MN 55415
The Beacon Milling Co., Inc., Cayuga, N.Y. 13034
Bernardston Grain Co., Bernardston, MA 01337
Best Feed & Farm Supplies Inc., Box J, Oakdale, PA 15071
Big Pet Petfoods, Deep Run Packing Co., Deep Run Rd., Dublin,PA 18917
Bio-Nu Laboratories Inc., 1135 Kane Concourse, Bay Harbour Islands, Florida 33154
Bordo Citrus Products Corp., P.O. Box 1152, Winter Haven, Florida 33880
Boston Molasses Company, 920 E. First St., South Boston, MA 02127
Brockville Chemical Industries Ltd., 1235 University St., Suite 1420, Montreal, Quebec, Canada
James P. Brown Co., 310 Franklin St., Worcester, MA 01604
Brown-Forman Distillers Corporation, P.O. Box 1080, Louisville,KY 40201
Bruckmann's, 179 South Broadway, Lawrence, MA
Bumble Bee Seafoods, A Div. of Castle & Cooke, Inc., P.O. Box 60, Astoria, OR 97103

Cadillac Pet Foods, Inc., 9130 Mohigan Trail, Pennsauken, N.J. 08110
Calo Pet Foods, Div. of Borden Inc., P.O. Box 388, Allentown, PA 18105
Camden Gelatin, Div. of Peters Cooper Corp., 1000 N. Fifth St., Camden, N.J. 08102
Carey Salt,Division of Interpace Corporation, 1800 Carey Blvd., Hutchinson, Kansas 67501
Carnation Company, 5045 Wilshire Blvd., Los Angeles, CA 90036
Cargill Inc., 1324 Cargill Bldg., Minneapolis, MN 55402
Central Conn. Co-Op. Farmers Assn., Inc., Box V, Buckland Station, 10 Apel Place, Manchester, CT 16040
Central Soya, 1300 Fort Wayne Bank Bldg., Fort Wayne, IN
Champion Valley Farms, Inc., P.O. Box 391, Camden, N.J. 08101
Char-Bone Corp., P.O. Box 536,Manhasset, N.Y. 11030
Chelsea Milling Co., North Street, Chelsea, Michigan 48118
Clinton Corn Processing Co., P.O. Box 340, Clinton, Iowa 52732
The Coca-Cola Company, Foods Division, P.O. Box 2079, Houston, TX 77001
Con-Agra Inc., Kiewit Plaza, Omaha, NE 68131
Colorado Feeds Inc., Star Route, Wiley, Colorado 81092
Commercial Solvents Corp., 1331 South 1st Street, P.O. Box 420, Terre Haute, Indiana 47803
Continental Grain Co., Processing Division, 277 Park Ave., New York,N.Y.10017
Corenco Corp., 525 Woburn St., Tewksbury, MA 01876
Corn Products, Inc., A Unit of CPC International, Inc., International Plaza, Feed PRoducts, Englewood Cliffs, N.J. 07632
CPC International, 54 Fulton St., Buffalo,N.Y. 14204
Cutter Animal Health Laboratories, Div. of Bayvet Corp., P.O. Box 390, Shawnee Mission, Kansas 66201

The Jim Dandy Company, P.O. Box 10687, Birmingham, Alabama 35202
Dawe's Laboratories, 450 State Street, Chicago, IL 60411
Deep Run Packing Co., Inc., Deep Run Road, Box 247, Dublin,PA 18917
Delta Pet Products, 600 South 4th Street, Harrison, N.J. 07029
Demoulas Supermarkets Inc., 875 East St., Tewksbury, MA 01876
c/o Doane Products Co., P. O. Box 879, Joplin, MO 64801
Diagnostic Data, Inc., 518 Logue Ave., Mountain View, CA 94043
Doboy Feeds, Domain Industries Inc., 215 No. Knowles Ave., New Richmond, WI 54017
Docktor's Laboratories Inc., Dundee Park, Andover, MA 01810
Dr. Melody DVM Association, Deep Run Rd., Dublin, PA 18917
The Dow Chemical Company, 2030 Dow Center, Midland, MI 48640
Dunkin' Donuts of America, Inc., P.O. Box 317, Randolph, MA 02368
E.I. duPont deNemours & Co., Wilmington, DE 19898

Eastman Gelatin Corp., 227 Washington St., Peabody, MA 01960
Elanco Products Co., A Div. of Eli Lilly & Co., P.O. Box 1750, Indianapolis, IN 46206
John W. Eshelman & Sons, A Div. of Carnation Co., 5045 Wilshire Blvd., Los Angeles, CA 90036
Essex County Cooperative Farming Assn., Topsfield, MA 01983
Evanger's Dog & Cat Food Co., Inc., 221 Wheeling Rd., Wheeling, IL 60090
John Ewing Co., 401 N. 1st Street, LaSalle, Colorado 80643
Eight in One Pet Products Inc., 100 Emjay Boulevard, Brentwood, N.J. 11717

Farm Bureau Cooperative Assn., Inc., 158 Lexington St., Waltham,MA 02154
Farmers Feed Company, 375 Johnson Ave., Brooklyn, N.Y. 11206
Farmland Industries Inc., 3315 N. Oak Trafficway, Kansas City, Missouri 6411
Fast Fractions for Purses Inc., DVM, 9 Burnap Rd., Windsor Locks, Connecticut 06096
FMC Corporation, 2000 Market Street, Philadelphis,PA 19103
First National Stores, Inc., 5 Middlesex Ave., Somerville, MA 02143
Flory Milling Co., North Main St., Bangor, ME 18013

Geisler Pet Products Inc., 3902 Leavenworth St., Omaha, Nebraska 68105
General Foods Corp., 250 North St., White Plains, N.Y. 10625
General Foods Corp., Beverages & Breakfast Foods Inc., 275 Cliff Street, Battle Creek, Michigan 49016
General Mills Inc., P.O. Box 15003, Minneapolis, MN 55415
Genstar Chemical Ltd., 1255 Union St., Suite 1420, Montreal, Quebec,Canada
The Great Atlantic & Pacific Tea Company, Inc., Ann Page Division, Fruitridge Ave. & Locust Streets, Terre Haute, Indiana 47808
Great Northern Foods Inc., 909 E. Elizabeth St., Detroit, Michigan 48226
Roy Goff & Company, Inc., P.O. Box 6248, Bridgeport, CT 06606

Hap-ee Pet Food Company, 150 Reservoir Rd., Wolliston, MA 02120
The Hartz Mountain Corp., 700 South 4th Street, Harrison, N.J. 07029
Hill's Division of Rivianna Foods Inc., 401 Harrison, P.O. Box 148, Topeka, Kansas 66601
Hoffman LaRoche Inc., 340 Kingsland St., Nutley, N.J. 07140
Holmstead Feeds, Berkley Street, Berkley, Ma.
H.P. Hood Inc., 500 Rutherford Ave., Boston, MA 02129
E.C. & W.L. Hopkins Inc., Greenfield, New Hampshire 03047
The Hubinger Company, 601 Main St., Keokuk, LA 52432

Illinois Cereal Mills Inc., 620 South Jefferson, Paris, IL 61944
Impro Products Inc., 3 Allamahee St., Waukon, Iowa 52172
International Bakerage Inc., 3300 Northeast Expressway, Atlanta, GA 30341
International Minerals & Chemical Corp., IMC Plaza, Libertyville, IL
International Multifoods, 1200 Multifoods Bldg.,
International Salt Company, Clarks Summit, PA 18411
International Stock Food Corp., P.O. Box 23, 533 Broad St., Waverly,NY 14892

Jerky Treats, Inc., P.O. Box 10037, El Paso, TX 79991
I.S. Joseph Company, Inc., 777 Grain Exchange Bldg., Minneapolis,MN 55415

Kal Kan Foods Inc., 3386 East 44th St., Vernon, CA 90058
Key Milling Co., Inc., P.O. Box 116, Clay Center, Kansas 67432
Keystone Dehydrators, R. D. #2, Box 127, Keystone Rd., Bethlehem, PA 18017
H.C. Knoke Div. Minnesota Grain Pearling, 5728 W. Roosevelt Rd., Chicago, IL 60650
Krause Milling Co., P.O. Box 1156, Milwaukee, WI 53201

LaCrosse Milling Co., Div. of Ward Foods Inc., Cochrane, WI 54622
Land O'Lakes Inc., Agricultural Services, Fort Dodge, IO 50501
Lambert Kay, Div. of Carter-Wallace Inc., P.O. Box 418, Half Acre Road, Cranbury, N.J. 08512

Lipman Marine Products Inc., P.O. Box 549, Augusta, Maine 04330
Lipton Pet Foods Inc., 800 Sylvan Ave., Englewood Cliffs, N.J. 07632
Liv-A-Snaps Inc., P.O. Box 3490, St. Paul, MN 55165
Longside Aquarium Products, 600 South 4th St., Harrison, N.J. 07029
Lykes Pasco Packing Co., P.O. Box 97, Dade City, Florida 33525

Martin's Feed Mills Inc., New Paris, Indiana 46553
Massachusetts Canning Corp., 123 Robinson St., Raynham, MA 02767
Maple Leaf Mills Co., Ltd., Express Flour Div., Queens Quay, Toronto, Ontario, Canada
Mavar Shrimp & Oyster Co., Ltd., P.O. Drawer 208, Biloki, MS 39533
Maxon Mills Inc., Wassaic, N.Y. 12592
The Mearl Corporation, Broad Cove Road, Eastport, Maine 04631
The Mennel Milling Co., 128 West Crocker St., P.O. Box 806, Fostoria,Ohio
Merck & Co., Inc., Rahway, New Jersey 07065
Merrimack Farmers Exchange Inc., P.O. Box 470, Cocord, N.H. 03301
Metaframe Corporation, 41 Slater Drive, Elmwood Park, N.J. 07407
Milk Specialties Co., P. O. Box 278, Dundee, IL 60118
Minerals, Pigments, & Metals Division, Pfizer Inc., 260 Columbia St., Adams, MA 01220
Minus Inc., P.O. Box 5229, Little Rock, Arkansas 72205
Morton Pet Food Company, 110000 West 47th St., P.O. Box 621, Hopkins, MN 55343
Morton Salt Co., 110 North Wacker Drive, Chicago, IL 60606
Mowat Wilson & Co., Box 5171, Seven Oaks Station, Detroit, MI 48235
Murphy Products Co., Inc., A Subsidiary of Jos. Schlitz Brewing Co., 1248 Dodge Street, Burlington, WI 53105
Mutual Products Co., Inc., 509 North 4th St., Minneapolis,MN 55401

Nabisco Inc., Toledo Flour Mill, 2221 Front St., Toledo, OH 43605
National Alfalfa Dehydrating & Milling Co., 4800 Main Street, Kansas City, Missouri
National Brands Sales, A Div. of Federated Foods Inc., 1450 Hills Place, N.W., Atlanta, GA 30318
National Molasses Co., Willow Grove, PA 19090
National Pet Food Corp., 6700 Cherry Ave., Long Beach, CA 90805
Also: Wells Division, 617 South D Street, Monmouth, IL 61462
Namolco Liquid Supplement, Div. of National Molasses Co., Willow Grove, PA 19090
National Equine Products, Div. of National Vitamin Products, Co., 3401 Hiawatha Ave., Minneapolis, MN 55400
National Starch & Chemical Corp., 1515 Drover St., Indianapolis,IN 46221
Naremco Inc., Box 1572 S.S.S., Springfield, Missouri 65805
New England Fish Co., Pier 89, Seattle, Washington 98119
Northern Ohio Sugar Company, 1530 Sixteenth St., Denver, CO 80202
Norwich Agricultural Products, Div. of Morton-Norwich Products Inc., 17 Eaton Ave., Norwich, N.Y. 13815
NuLabs Inc., 3930 S.W. Macadam Ave., Portland, OR 97201

Old Fox Chemical Inc., 66 Valley St., E. Providence, R.I.
Orleans Packing Co., By Hi-Life Packing Co., 8 South Michigan Ave., Chicago, IL 60603

Old Mother Hubbard Dog Food Co., Inc., P.O. Box 2411, 80 Rogers St., Lowell, Massachusetts 01853
Oyster Shell Products/Division of Radcliff Materials Inc., P.O. Box 1225, Mobile, Alabama 36601

Pacific Molasses Company, One California St., San Francisco, CA 94111
Paterson Tallow Co., Inc., 1580 N. Northwest Highway, Park Ridge,IL 60068
Peavey Company Flour Mills, 730 Second Ave.-South, Minneapolis, MN 55402
Pecos Feed yard, Inc., P.O. Box 1712, Pecos, TX
Penick & Ford Ltd., P.O. Box 428, Cedar Rapids, Iowa 52406
Perk Foods Co., Inc., 1580 N. Northwest Highway, Ridge Park, IL 60068
Pet Kitchens Inc., P.O. Box 156, Bridgeville, Delaware 19933
Peter Cooper Corporation, Camden Gelatin Division, 1000 N. Fifth St., Camden, New Jersey 08102
The Pillsbury Company, Mail Station M338, 608 Second Ave., South, Minneapolis, MN 55402
Pittsburgh Brewing Co., 3340 Liberty Ave., Pittsburgh, PA 15201
G.D. Poultry Inc., 68 Cambridge St., Middleton, MA 02346
POV Products, P.O. Box 61, Farmingdale, N.Y. 11735
Prost Alfalfa Mill, Box 244, Perryville, MA 63775
Provimi Inc., 99 Bartley Rd., Flanders, New Jersey 07836

The Quaker Oats Company, Merchandise Mart Plaza, Chicago, IL 60654

Rachelle Laboratories Inc., 100 Emjay Boulevard, Brentwood, N.J. 11717
Ralston Purina Company, 835 South Eighth Street, St. Louis, MO 63188
The Reward Company, Inc., P.o. Box 12628, El Paso, TX 79912
Rhodia Inc., Hess & Clark Division, 7th & Orange St., Ashland, OH 44805
Rivianna Foods Inc., Hill's Division, 401 Harrison, P.O. Box 148, Topeka, Kansas 66601
Roto Salt Company, Inc., 449 Monell St., Penn Yan, New York 44527
Rytman Grain Co., Inc., RFD #1, Lebanon, CT 06249

Schenely Distillers Inc., 36 E. Fourth St., Cincinnati, OH 45202
Sea Corporation, Commonwealth Pier, Boston, MA 02210
Seaboard Allied Milling Corp., 1550 West 29th St., Kansas City, MO 64108
J.F. Seagram & Sons, Inc., 508 W. High St., Lawrenceburg, IN 47025
Shell Chemical Company, A Div. of Shell Oil Co., 2401 Crow Canyon Road, San Ramon, CA 94583
J.R. Short Milling Co., Grinnel Rd., P.O. Box 866, Kankakee, IL 60901 Headquarters: Chicago, IL
The Southern Cotton Oil Co., Inc., P.O. Box 24219, New Orleans, LA 70184
Southern of Darlington Co., 383 Washington St., Darlington, SC
Southern Fruit Distributors Inc., P.O. Box 8367, Orlando,FL 32806
Southern of Rocky Mount Inc., P.O. Box 109, 600 Wilkinson St., Rocky Mount, North Carolina 27801
Smith-Douglas Inc., Div. of Borden Chemical, Borden Inc., P.O. Box 419 Norfolk, VA 23501
Spencer Kellogg Div. of Textron Inc., 120 Delaware Ave., Buffalo, N.Y. 1424

Smith Kline Animal Health, Div. of Smith Kline Corporation, 1500 Spring Garden St., Philadelphia, PA 19101
Smith Grain Mill Inc., (Formerly Jaquith), 35 Prospect St., P.O. Box 305, Woburn, MA 01869
Staff Supermarkets Associates Inc., by Barzen of MPLS Inc., P.O. Box 1123, Minneapolis, MN 55440
Staff Supermarkets Associates, 333 Jericho Turnpike, Jericho, N.Y. 11753
Standard Brands Inc., 625 Madison Ave., New York, N.Y. 10022
Standard Milling Co., 1009 Central, Kansas City, MO 64105
Star-Kist Foods Inc., 582 Tuna St., Terminal Island, CA 90731
Star Market Co., 625 Mt. Auburn St., Box 293, Cambridge, MA 02138
Star Market, c/o Foster Canning Co., Inc., Railroad Ave., Farmingdale, N.J. 07727
F.W. Stock & Sons, Div. of DCA Food Industries Inc., 101 East Bacon Street, Hillsdale, Michigan 48242
The Stop & Shop Inc., c/o Allied Foods Inc., 1450 Hills Place, N.W. Atlanta, GA 30318
Strongheart Feed Mills Inc., P.O. Drawer 9, Red Bay, Alabama 35582
Sunflowers Inc., Grandin, North Dakota
Sunshine Feed Mills Inc., P.O. Drawer 9, Red Bay, Alabama 35582
Sun Harbor Industries Inc., 1995 Bay Front, San Diego, CA 92112
Superior Pet Products Inc., 321 Summer St., Boston, MA 02210
Swift Edible Oil Co., A Div. of Swift & Co., General Office, Chicago,IL Also: P.O. Box 110, Fostoria, Ohio

Tater Meal Inc., P.O. Box 413, Presque Isle, Maine 04769
Topco Associates Inc., c/o Allied Foods Inc., 1450 Hills Place, N.W. Atlanta, GA 30318
Tri Associates Inc., 8500 Pillsbury Ave., South, Minneapolis, MN 55420
Triumph Pet Industries, Inc., P.O. Box 100, Hillburn, N.Y. 10933
TransAgra Corp., 1355 Lynnfield RD., Suite 261, Memphis, TN 38138

United Cooperative Farmers Inc., 339 Broad St., Fitchburg, MA 01420
Universal Grain Co. of New Jersey, 425 South St., Newark, N.J. 07105

Vita Kelp Division, National Vitamin Products Co., 3401 Hiawatha Ave., South, Minneapolis, MN 55406
Vital Nutrition Products Inc., 520 Livington St., Norwood, N.J. 07628
Vit-A-Way Inc., Box 4369, Ft. Worth, TX 76106

Wardley Products Co., Inc., One Aquarium Dr., Secaucus, N.J. 07094
Wakefern Food Corp., 600 York St., Elizabeth, N.J. 07207
Watkins Salt Co., 518 E. Fourth St., Watkins Glen, N.J. 14891
H.K. Webster Co., Inc., P.O. Box 8, Lawrence, MA 01842
Wilson & Co., Inc., P.O. Box 26724, Oklahoma City, OK 73126
Wilson's Corn Products Inc., Rochester, Indiana 46975
Whinny Co., Inc., P.O. Box 360, Commerce City, CO 80037

Xtravim Division of Sucrest Corp., 2100 East Sibley Boulevard, Calumet City, IL 60409

York Flour Mills Inc., R.D. #5, York, PA 17402

GENERAL MATERIALS SAMPLES

University research project samples, and those brought in by farmers, feed salesmen and extension agents, and toxicology samples from the Department of Veterinary and Animal Science from the university, are classified as General Materials Samples.

Samples of forages (hays and silages) are analyzed for protein, fat, fiber, moisture, ash, and pH, and minerals on request. Estimated Net Energy as well as Total digestible nutrients are determined from the analyses made. During the current year there were 453 samples of green forage analyzed from the sources mentioned above.

Toxicology samples numbered 135 of which 45 were mostly for heavy metals, and 90 were for pesticide residues.

There were 351 feed, 71 fertilizer, 53 leaf, and 18 miscellaneous samples completed.

The total number of General Materials Samples completed during the year was 1,081.

Soil Analysis

THe soil testing laboratory analyses soils for home gardeners, farmers, greenhouse operators, commercial flower growers, golf greens, state and municipal parks, building contractors, and the extension service.

During the year, 3,033 samples were handled, and 25,264 analyses were made. Analyses for pH, calcium, potassium, Phosphorus, Magnesium, Nitrate Nitrogen, Ammoniacal Nitrogen, soluble salts, and organic matter are routine.

This service is free and we have had many favorable comments complimenting the University for its contribution to the well being of the citizens of the Commonwealth.

SEED LABORATORY REPORT NO. 50
FOR 1977 (FISCAL YEAR)

By the Seed Laboratory Staff of the
Feed, Seed, Fertilizer Laboratory

West Experiment Station
Amherst, Massachusetts

UNIVERSITY OF MASSACHUSETTS
COLLEGE OF FOOD AND NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION

R.S. Whaley, Director

SEED LABORATORY STAFF:

William N. Rice, Assoc. Prof., In Charge of Feed, Seed, Fertilizer Laboratory
Carl H. Eiben, Asst. Prof. and Purity Analyst
Waldo C. Lincoln, Jr., Instructor and Germination Analyst
Janice M. Murphy, Senior Clerk and Stenographer
Muriel M. Scarborough, Junior Clerk and Stenographer
Mary Lou McGuigan, Departmental Assistant

STATE SEED INSPECTORS:

James M. Cassidy, Chief Market Investigator
Daniel J. Burns
Charles A. Batts
George M. Porter
Earl H. Goodrich

SUMMARY OF YEAR'S WORK

Although the Seed Laboratory engages in some work other than the testing of seeds, its activity can be expressed to some extent by the number of seed samples tested. From the period between July 1, 1976, and June 30, 1977, 1294 samples were received and 2725 various tests were made.

POINTS FOR INVESTIGATION

Seeds which are to be sold in Massachusetts for seeding purposes must meet all the requirements of the Seed Act. (See Chapter 128 of the General Laws amended by Chapter 203 of the Acts of 1975). The points of the law for which the Seed Laboratory could test seeds for compliance during the 1976-1977 season are summarized below. These points were used as bases for the investigation.

A. All Seeds:

1. *Must be labeled to show: conspicuously and plainly the commonly accepted name of kind, variety, and treatment* if any, name and address of labeler or vendor, and number of Restricted Noxious Weed Seeds** per pound if any, under the heading "Restricted Noxious Weed Seeds" or "Noxious Weed Seeds".*

2. *Must not: have any false or misleading label or advertising; nor be represented as Certified seed, Registered seed, Foundation seed or Hybrid seed unless they meet the requirements; nor contain any Prohibited Noxious Weed Seeds#; nor contain more Restricted** Noxious Weeds per pound than claimed; nor contain more than one percent total Weed Seeds##; nor germinate less than two thirds the recognized standard (making a lot UNFIT FOR SEEDING PURPOSES): nor be offered for sale more than nine months after the latest germination test.*

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* *For required treatment statment see page 22.*

***The Restricted Noxious Weeds are: dodder (Cuscuta spp.) horsenettle (Solanum carolinense), wild mustards including India mustard (Brassica juncea), charlock (B. kaber) and black mustard (B. nigra), wild garlic and wild onion (Allium spp.), perennial sowthistle (Sonchus arvensis), corncockle (Agrostemma githago), buckhorn plantain (Plantago lanceolata), wild radish (Raphanus raphanistrum), bedstraw (Galium spp.), and annual bluegrass (Poa annua).*

 # The Prohibited Noxious Weeds are: Canada thistle (Cirsium arvense), field bindweed (Convolvulus arvensis), and quack grass (Agroypyron repens).

##Besides the plants commonly recognized as weeds, black medick (Medicago lupulina), suckling clover (Trifolium dubium) and large hop clover (Trifolium campestre) are also classed as weeds.

B. *If seed has been treated with a substance* or process*, a treatment statement must appear in type no smaller than 8 point on the container, tag, or on a separate tag as indicated below:*

TREATMENT WITH SUBSTANCE OR PROCESS*:*	*RESTRICTED LABEL OR STATEMENT:*
1. *Amount remaining on seed not harmful to vertebrates, neither mercurials nor similarly toxic chemicals, on seed quantities of 4 ounces or less, or the following chemicals on seed quantities of any size, in concentrations less than indicated:* *allethrin- 2 parts per million,* malathion- *8 p.p.m.,* *methoxychlor- 2 p.p.m.,* *piperonyl butoxide-* *on oat and sorghum- 8 p.p.m.,* *on all other seed- 20 p.p.m.,* *pyrethrins-* *on oat and sorghum- 1 p.p.m.,* *on all other seed- 3 p.p.m.*	*TREATED WITH:* _____ *(Name # of substance* or process*)* _____ *(Proprietary name permitted.)*
2. *Amount remaining on seed harmful to vertebrates, neither mercurials nor similarly toxic substances but on seeds in larger quantities or in concentrations higher than indicated above.*	*Treated with:* _____ *(Name# of substance*)* _____ *(Proprietary name permitted.)* *DO NOT USE FOR FOOD FEED OR OIL*
3. *Mercurials or similarly toxic substance## if any amount remains on seed; including the following:* *Demeton* — *Heptachlor* *Diazinon* — *Parathion* *Disulfoton* — *Phorate* *Ethion* — *Toxaphene* *Fenaminosulf* — *All mercurials*	*Treated with:* _____ *(Name# of substance*)* _____ (Proprietary name permitted.) *POISON***

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* *Designed to reduce, repel, or control insects or disease organisms.*

\# *The name of the substances must be commonly accepted and must be either the coined name, chemical (generic) name or the abbreviated chemical name. It must not be a proprietary or trade name.*

***The skull and crossbones and the word"POISON" must be at least twice the size of 8 point type.*

\#\#*These substances were classed as mercurials or similarly toxic substance under the Federal Seed Act, September 1977.*

C. *Agricultural and Lawn Seed:*

1. *Must be labeled to show: commonly accepted variety* name, or the statement "Variety Unknown" if it is unknown; Origin in the case of alfalfa, red clover, white clover and field corn (except hybrid corn) or "Origin Unknown" if it is unknown; Lot number; the percentage "Germination" and percentage Hard Seed, if any, with the month and year of germination test; and the percentage by weight of each Pure Seed component by name in excess of 5 percent of the whole**, in order of its predominance#; the percentage by weight also of Weed Seed, Inert Material and Other Crop seed; and the term "Mixture" if more than one pure seed component is named#.*

2. *Must neither be labeled with the term "trace" for any required percentage, nor contain more than 20 percent inert matter.*

D. *Vegetable and Herb Seeds:*

1. *Must be labeled to show: for peas, beans and sweet corn in package of more than one pound and others in packages of more the 1/4 pound, the Lot number, percentage Germination and percentage Hard Seed if any, and the month and year of Germination test; for seeds in smaller sized containers than the above, the date of Germination test or calendar year for which packaged; if the Germination plus Hard Seed* is below the adopted standard, the germination plus hard seed, if any, the month & year of test and the term "Below Standard" in type no smaller than eight point.

E. *Flower Seeds:*

1. *Must be labeled to show: the kind and variety name or a statement of performance characteristics; that it is a mixture of kinds and varieties, if so; whether the plants produced will be annual, biennial or perennial if there could be any doubt; for seed in containers larger than those for home flower gardens, the Lot number, and if standard testing procedure have been adopted, the percentage Germination and Hard Seed if any, and the month and year of Germination test; for seeds in containers of the size for home flower gardens, the date of Germination test or calendar year for which the seed is packaged; and for any size package, if the percentage Germination plus Hard Seed is below the adopted standard, the percentage Germination plus Hard Seed if any, the month and year of test, and the term "Below Standard" in type no smaller than eight point.*

2. *Must neither contain more than 25% by count of one kind in a mixture of kinds unless the kind names and appropriate percentage of each are declared nor potentially produce 60% or more plants bearing one color flowers when labeled to produce four or more colors of one kind, unless the approximate percentage of each is indicated.*

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* *See Rules and Regulations, paragraph 12, for list of kinds requiring variety names.*

** *See Rules and Regulations, paragraph 6, for exceptions to the 5% rule.*

\# *See Rules and Regulations, paragraph 10, for mixture components.*

E. Flower Seeds (Continued):

3. A mixture of kinds of flower seeds will be considered to be below standard if the germination of any kind or combination of kinds constituting 25 percent or more of the mixture by number is below standard for the kind or kinds involved.

F. Tree and Shrub Seed in Containers of Quarter Pound or More:

1. Must be labeled to show: percentage by weight of Pure Seed; the Year of Collection; the locality and elevation where grown or a statement that these are unknown; percentage of germination and date of test if a standard method of germination has been adopted.

G. Additional requirements for seeds in preplanted containers, mats, or tapes:

1. Must be labeled to show: the minimum number of seeds per square foot for agricultural seeds; the minimum number of seeds in the containers for other seeds.

PREVIEW OF OFFICIAL TESTS

The official seed samples which represent a cross section of all seeds sold for seeding purposes in Massachusetts were collected, tested, and analyzed in accordance with the provisions of Sections 84-100 of the Seed Act, General Laws Chapter 128. Most of the samples were found to be labeled properly and truthfully, but some were found to be mislabeled or otherwise in variation with the law.

Table I gives the number and types of tests made during the year.

The details of the points of variation are given in the following five tables: Table II Agricultural Seeds, Table III Agricultural Seed Mixtures, Table IV Vegetable Seeds, Table V Flower Seeds, and Table VI Flower Seed Mixtures.

Table VII shows the compliance of all seed dealers listing the number of samples collected which were labeled correctly as well as the number in variation. Table VIII shows the analysis of the different types of variations.

In the tables the names of the LABELERS or SHIPPERS are CAPITALIZED and listed in alphabetical order; the names of the retailers and information concerning seeds found in variation are given under the labelers' names.

When germination or purity percentages are quoted, the figures are for the main crop seed component unless another component such as inert material, other crop seed, or weed seed is mentioned.

In the tables, notations are also made as to whether the variations are serious (S), minor (M), or technical (T). This classification is based on the following:

Serious (S) is assigned when laboratory findings:

1. *Exceed the labeled number by more than the official tolerance for Prohibited Noxious Weed Seeds;*
2. *Differ from the labeled statement by more than twice the official tolerance for the purity or germination percentage of any Pure Seed component, Weed Seed percentage, or number per pound of Restricted Noxious Weed Seeds;*
3. *Show seeds to be treated when not labeled as treated or vice versa.*
4. *Show seeds to be inherently weak in performance or to deviate highly significantly from labeled information.*

Minor (M) is assigned when the laboratory findings:

1. *Differ from the label by more than the official tolerance for the purity or germination percentage of any Pure Seed component, Weed Seed percentage, or Noxious Weed Seed;*
2. *Exceed the labeled percentage by more than twice the official tolerance for Inert Matter or Other Crop Seed;*
3. *Show inappropriate labeling or exaggerated claims but not grossly mislabeled.*

Technical (T) is assigned when laboratory findings:

1. *Show the quality of seed is within tolerance of the label but such things as the name or classification of a variety or treatment statement are improperly used.*
2. *Show the date of test, germination percent or lot number are omitted.*
3. *Show there are other variations which do not misrepresent the seed.*
4. *Exceed the labeled percentage by more than the official tolerance for Inert Matter or Other Crop Seed.*

TABLE I

SEED SAMPLES FOR INSPECTION YEAR 1976-77

KIND OF SEED SAMPLES	Number Received	Number of Analyses Scheduled			
		Germination	Purity	Noxious Weed	Other*
OFFICIAL SAMPLES					
Agricultural	71	71	71	71	16
Ag. Mixtures	64	217	64	64	57
Vegetables & Herbs	493	493	--	--	--
Veg. Mixtures	1	1	--	--	--
Flowers	269	269	--	--	--
Fl. Mixtures	6	6	--	--	--
TOTAL OFFICIAL	904	1057	135	135	73
SERVICE & EXPERIMENTAL					
Agricultural	104	91	70	31	19
Ag. Mixtures	23	21	19	--	--
Vegetables	197	197	--	--	2
Flowers	1	1	--	--	--
Trees & Shrubs	1	--	--	--	1
Other (Weeds & Unidentified)	34	1	--	--	33
TOTAL SERVICE & EXPERIMENTAL	360	311	89	31	55
TOTAL OF ALL SAMPLES	1264	2166	224	166	128
TOTAL ANALYSES SCHEDULED		2684			

*Other tests include fluorescence, identification, treatment and cleaning.

SEED INSPECTOR'S WORK 1977

In addition to the 904 official samples collected, the Seed Inspectors issued 21 stop sale orders against 74 other lots of seeds which were obviously inadequately labeled and in violation of the Massachusetts Seed Law.

TOBACCO SEED SERVICE 1977

The Seed Laboratory cleaned 3 lots of tobacco seed with a gross weight of 3.95 pounds and a net weight of 3.00 pounds after cleaning. These 3 lots and 4 other samples of seed were tested for germination for tobacco growers in the Commonwealth.

The following table reports the variations in the labeling of Agricultural seeds for 1977. Of the 71 samples collected by the State Inspectors 15 were found to be at variance with the Seed Law.

TABLE II
VARIATIONS FOUND IN LABELING OF AGRICULTURAL SEEDS (SINGLE KINDS)
1976-1977

LABELER/SHIPPER Seller/Consignee	Lab.No.,kind,var., lot no., description	VARIATIONS Labeled L,Found F	SERIOUS MINOR TECHNICAL	S M T
AGWAY INC. SYRACUSE, NY Cape Ag Supply Sandwich, Ma.	77-2, Wheat, #WB6032	Variety name or "Variety Unknown" is required.....		T
AGWAY INC. SYRACUSE, NY Agway Inc., New Bedford, Ma.	77-8,Oats, #WB5340 Treated with a chemical.	Variety name or "Variety Unknown" is required.....		T
		F Corncockle 2 per lb. Name and number/lb. under heading "Restricted Noxious Weed Seeds" is required.....		M
AGWAY INC. SYRACUSE, NY Mooney Feed & Grain, Wellfleet, Ma.	77-453, White clover, #WB604801	Variety name or "Variety Unknown" is required.....		T
AGWAY INC. SYRACUSE, NY Agway Inc., Athol, Ma.	77-1053, Perennial ryegrass, #P44051	F Annual bluegrass 15/lb. Name and number/lb. under heading "Restricted Noxious Weed Seeds" is required		M
CRAWFORD GARDEN SUPPLY PROVIDENCE, RI Mid Cape Center Wellfleet, Ma.	77-460, White clover, #7042	Variety name or"Variety Unknown" is required		T
CRAWFORD GARDEN SUPPLY PROVIDENCE, RI King's Dept. Store Brockton, Ma.	77-2121, Kentucky bluegrass, #7002	Pure Seed % less than official tolerance ..... L 75, F 71		M
DERBY FEED STORES, DERBY, CT Conlon's,Donnelly & Co., Attleboro, Ma.	77-15, Rye #6578	Variety name or "Variety Unknown" is required		T
DERBY FEED STORES, DERBY, CT Pinewood Gardens No. Reading, Ma.	77-570, Perennial ryegrass, #LO-6-E102	L 90, F 81		M
		81% germination below official tolerance. F annual bluegrass 281/lb. Name and number/lb. under heading "Restricted Noxious Weed Seeds" is required		S

TABLE II VARIATIONS FOUND IN LABELING OF

AGRICULTURAL SEEDS (SINGLE KINDS) 1976-77 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. No., kind, var., lot no., description	VARIATIONS LABELED L,FOUND F	SERIOUS MINOR TECHNICAL	S M T
HUB CITY FEED & SEED ABERDEEN, SD Attleboro Farm-Garden Supply,No. Attleboro Ma.	77-11, Winter rye #IPS-76-1	Variety name or "Variety Unknown" is required		T
TURF RESEARCH INC. GRANT PARK, IL K-Mart Rockland, Ma.	77-466, Merion Kentucky bluegrass, #7122	Germination % below official tolerance ..... L 75, F 50		S
VAUGHAN'S SEED CO. BOUND BROOK,NJ J.D.Lyon, Inc., Cambridge, Ma.	77-2158, Citation Perennial ryegrass, #M11-6-319	Annual bluegrass 9/lb. none declared. Name and number/lb. under heading "Restricted Noxious Weed Seeds" is asked (but Within Tolerance).....		T
VAUGHAN'S SEED CO. BOUND BROOK, NJ J.D.Lyon, Inc., Cambridge, Ma.	77-2162, Red Top #6077	L 85, F 61 ..... Germination % below that stated. Proper designation of kind name is redtop.....		S T
WHITNEY-DICKINSON, INC., BUFFALO, NY Essex Co. Coop., Topsfield, Ma.	77-387, Cert. Manhattan perennial ryegrass, #38-01-087	Pure seed deficient ..... Annual bluegrass 9/lb. Name and number/lb. under heading "Restricted Noxious Weed Seeds" is required		M M
WHITNEY-DICKINSON, INC., BUFFALO, NY Essex Co. Coop., Topsfield, Ma.	77-395, Red Top #41-01-023	L 90, F 69 ..... Germination % below that stated. Proper designation of kind name is redtop		S T
WHITNEY-DICKINSON INC., BUFFALO, NY Essex Co. Coop. Topsfield, Ma.	77-397, Seed buck-wheat, #86-03-021	Total purity % over 100..... Variety name or "Variety Unknown" is required		T T

The following table reports the variations in the labeling of mixtures of agricultural seeds for 1977. Of the 64 samples collected by the State Inspectors, 26 were found to be at variance with the Seed Law.

TABLE III
VARIATIONS FOUND IN LABELING MIXTURES OF AGRICULTURAL SEEDS
(INCLUDING LAWN AND TURF SEEDS) 1977

LABELER/SHIPPER Seller/Consignee	Lab.No.,mix name, lot no., description	VARIATIONS Labeled L,Found F	SERIOUS MINOR TECHNICAL S M T
AGWAY INC. SYRACUSE, NY Agway Inc., New Bedford, Ma.	77-4, Forage Mixture #1&2,#PB- 6605.	Redtop germination % below that stated ..... L 91, F 79	M
AGWAY INC. SYRACUSE, NY Agway Inc., New Bedford, Ma.	77-6, Forage Mixture, #4, #WB6065	F Buckhorn plantain 11/lb. Name and number/lb. under the heading "Restricted Noxious Weed Seeds" is required ...	M
AGWAY INC., SYRACUSE, NY Mooney Fuel & Grain, Wellfleet, Ma.	77-452, Spot Green Grass Seed Mixture #PB5439	Bluegrass germination below official tolerance ..... L 80, F 57	S
AGWAY INC., SYRACUSE, NY Agway Inc., Waltham, Ma.	77-473, Soil Conservation Mixture, #PB6682	L 90, F 76 Germination of Redtop below official tolerance ..... Variety name for white clover must be given or labeled as "Variety Unknown"	S T
DERBY SEED CO., DERBY, CT Pinewood Gardens, No. Reading, Ma.	77-572, Pinewood Deluxe Grass Seed Mixture, #553T	Red and Chewings fescue purity % found to be below official tolerance	M
DRUID HILL SEED CO., BALTIMORE, MD Brooks Discount Drug, Gardner, Ma.	77-1059, Bare Spot R Grass Seed, #OBS-5	"Annual ryegrass" is preferred to "Italian ryegrass"	T
JONATHAN GREEN & SONS INC., FARMINGDALE, NJ Fernandes Supermarket Brockton, Ma.	77-2167, Sunny Lawn Seed Mixture, #772	Front panel claim of 40% Citation perennial ryegrass component is not consonant with purity label 39.44% nor within tolerance of found 33.42%	M
JONATHAN GREEN & SONS INC., FARMINGDALE, NJ Fernandes Supermarket Brockton, Ma.	77-2168, Jonathan Green's Mixed Grass Seed,#783	"Annual ryegrass" is preferred to "Italian ryegrass"	T

TABLE III VARIATIONS FOUND IN LABELING MIXTURES OF AGRICULTURAL SEEDS (INCLUDING LAWN AND TURF SEEDS) 1977 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab.no., mix name, lot no., description	VARIATIONS Labeled L,Found F	SERIOUS S MINOR M TECHNICAL T
JONATHAN GREEN & SONS INC., FARMINGDALE,NJ Fernandes Supermarket Brockton, Ma.	77-2172, Rutland Farm Grass Seed Mixture, #782	"Annual ryegrass" is preferred to "Italian ryegrass"	T
CHAS. C. HART SEED CO., WETHERSFIELD, CT Spear Hardware Inc., Walpole, Ma.	77-322, Velvet Green Lawn Seed Mixture, #76-91	Ryegrass is a coarse kind.....	T
LOFT'S PEDIGREED SEED CO., BOUND BROOK, NJ Westport Paint & Hardware, Westport, Ma.	77-376, Loft's New England Turf Lawn Seed Mixture, #LNET-1A-77	Manhattan perennial ryegrass is a coarse kind	T
LOFT'S PEDIGREED SEED CO., BOUND BROOK,NJ Westport Paint & Hardware, Westport, Ma.	77-377, Loft's Shady Lawn Seed Mixture, #LS-1A-77	Manhattan perennial ryegrass is a coarse kind	T
LOFT'S PEDIGREED SEED CO., BOUND BROOK,NJ Tremont Hardware, Taunton, Ma.	77-507, Village Park Economy Mixed Grass Seed, #UPE-1-76	"Annual ryegrass" is preferred to "Italian ryegrass"	T
LOFT'S PEDIGREED SEED CO., BOUND BROOK,NJ John Hinkley & Sons, Hyannis, Ma.	77-533, Cape Cod Special Grass Seed Mixture, #CCS-1-77	Germination of Kentucky 31 tall fescue below official tolerance L 85, F 52	S
		Germination of red fescue below official tolerances L 85, F72..	M
LOFT'S PEDIGREED SEED CO., BOUND BROOK,NJ Tippy's Garden Ctr., Stoughton, Ma.	77-2142, New England Turf, #LNET-1A-77	Manhattan perennial ryegrass is a coarse kind	T
LOFT'S PEDIGREED SEED CO., BOUND BROOK,NJ Tippy's Garden Ctr. Stoughton, Ma.	77-2143, Shady Lawn Seed Mixture, #LS-1A-77	Massachusetts law requires all ryegrasses to be listed under "coarse kinds"	T
LOFTS PEDIGREED SEED CO., BOUND BROOK,NJ Tippy's Garden Ctr., Stoughton, Ma.	77-2144, Turf Supreme Lawn Seed Mixture, #TS-1-77	Manhattan perennial is a coarse kind	T

TABLE III VARIATIONS FOUND IN LABELING MIXTURES OF AGRICULTURAL SEED (INCLUDING LAWN AND TURF SEEDS) 1977 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab.no., mix name, lot no., description	VARIATIONS Labeled L,Found F	SERIOUS S MINOR M TECHNICAL T
NORTHRUP, KING & CO., MINNEAPOLIS,MN Toabes Hardware, Hanson, Ma.	77-375, Tru-Test Sun & Light Shade Lawn Seed, #RT49060-10441-10442ABC	Fine or coarse kinds not labeled	T
OLD FOX CHEMICAL,INC. PROVIDENCE, RI Craig's Garden Ctr., West Dennis, Ma.	77-542, Shady Lawn Seed Mixture, #SL-17	Purity Poa trivialis L 13.83%, F 0%	S
		Annual bluegrass 45/lb. Name and number/lb. under heading "Restricted Noxious Weed Seeds" required	M
PLANTATION SEED & SUPPLY CO., PROVIDENCE, RI Attleboro Farm Garden Supply, No. Attleboro, Ma.	77-10, Vivagreen Mixed Grass Seed, #6081	Manhattan perennial ryegrass is a coarse kind	T
SEABOARD SEED CO., BRISTOL, IL Cape Cod Bark & Garden Center, Forestdale, Ma.	77-410, Quick Green Grass Seed Mixture, #68206	Germination of Pennlawn red fescue below official tolerance L 85, F 60	S
		Germination of Newport Kentucky bluegrass below official tolerance L 85, F 69	S
SEED CORPORATION OF AMERICA, BALTIMORE,MD Brooks Discount Plymouth, Ma.	77-539, Quick & Easy Grass Seed Mixture, #KWE402-1	"Annual ryegrass" is preferred to "Italian ryegrass"	T
STANFORD SEED CO., BUFFALO, NY Bradford Hardware Co., Hyannis, Ma.	77-537, Old English Shady Mixture, #60C-7	Massachusetts law requires ryegrasses to be listed under "Coarse Kinds"	T
STANFORD SEED CO. BUFFALO, NY Bradford Hardware Co., Hyannis, Ma.	77-538, Old English Sunny Mixture,#60B-6	Massachusetts law requires ryegrass to be listed under "Coarse Kinds"	T
STANFORD SEED CO., BUFFALO, NY Stanford Seed Co., Oxford, Ma.	77-1042, Ryegrass Mixture, #15A-1287	Total percent more than 100. L 100.20	T
STANFORD SEED CO., BUFFALO, NY Stanford Seed Co., Oxford, Ma.	77-1045, Brown's Builders Blend, #72-9995	F. annual bluegrass 136/lb. Name and number/lb. under the heading "Restricted Noxious Weed Seeds" is required.....	S

The following table reports the variations in the labeling of vegetable seed as determined by laboratory tests for 1977. Of the 494 samples collected by the State Seed Inspectors, 36 were found to be at variance with the Seed Law.

TABLE IV
VARIATIONS FOUND IN LABELING VEGETABLE SEEDS 1977

LABELER/SHIPPER Seller/Consignee	Lab. No., kind, var., lot no., description	VARIATIONS Labeled L,Found F	SERIOUS MINOR TECHNICAL	S M T
ADVANCE SEED CO., FULTON, KY King's Brockton, Ma.	77-2139, Beet, Detroit Dark Red, #A414	Short wt. in 2 of 6 packages 3.12 and 2.83 grams, Labeled 3.19 grams.....		M
AGWAY INC., SYRACUSE, NY Agway Inc., Taunton, Ma.	77-437, Leek American Flag	Year of packing illegible on both packets		T
AMERICAN SEED, LANCASTER, PA Js Cassidy, Dept. of Agric., Food & Agric., Boston, Ma.	77-2502, Watermelon, Crimson Sweet	One packet has no date.....		T
AMERICAN SEED, LANCASTER, PA Js Cassidy, Dept. Food & Agric., Boston, Ma.	77-2505,Beet,Early Wonder	One packet has no date		T
ASGROW-MANDEVILLE CAMBRIDGE, NY Bosnengo, Buzzards Bay, Ma.	77-105, Parsley, Moss Curled, Run 1	Germination below standard L 60, F 48		M
ASGROW-MANDEVILLE CAMBRIDGE, NY Sears, Brockton, Ma.	77-2062, Chicory, Radichetta, #1	Weight is misrepresented. Both packets below claim. L 1.5 g, F .7056 g.,7739 g ..		S
W.A. BURPEE SEED CO., WARMINSTER, PA Green Thumb, Plymouth, Ma.	77-123, Lettuce, Black Seeded Simpson	Weight is misrepresented. L 680 mg, F 331 mg and 335 mg		S
W.A. BURPEE SEED CO., WARMINSTER, PA Green Thumb, Plymouth, Ma.	77-125, Lettuce, Paris White, Cos or Romaine	Weight is misrepresented. Both packets below claim. L 680 mg., F 616, 523.5 mg..		S

TABLE IV VARIATIONS FOUND IN LABELING OF VEGETABLE SEEDS 1977 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. No., kind, var., lot no., description	VARIATIONS Labeled L,Found F	SERIOUS MINOR TECHNICAL S M T
W.A. BURPEE SEED CO., WARMINSTER, PA Two Guys, Springfield, Ma.	77-3008, Lettuce, Great Lakes, #6053-1	Germination below standard Std 80%, Found 56%	S
		Quantity of seed deficient L 500, F in 2 pkts 492 & 307	S
W.A. BURPEE SEED CO., WARMINSTER, PA Two Guys, Springfield, Ma.	77-3010, Endive, Broad Leaf, Batavian, #5027-0	One package contained no seed	S
COMSTOCK FERRE, WETHERSFIELD, CT Spag's Supply, Shrewsbury, Ma.	77-1013, Rosemary	Seed produced too few seedlings, Unfit For Planting ..... Found 17	S
COMSTOCK FERRE, WETHERSFIELD, CT Spag's Supply, Shrewsbury, Ma.	77-1027, Onion, Long Red Wethersfield	Seed unfit for seeding. Standard 70, F 40	S
COMSTOCK FERRE, WETHERSFIELD, CT Js Cassidy, Dept. of Food & Agric., Boston, Ma.	77-2530, Bush Beans, Blue Lake, #3677	Germination below that claimed, L 75, F 54	S
COOPERS, WALNUT CREEK, PA Two Guys, Springfield, Ma.	77-3028, Radish, Champion Scarlet Globe	"Champion Scarlet Globe" not a variety name. Should read "Champion" or "Scarlet Globe"	T
CROSSMAN SEED CORP., E. ROCHESTER, NY K-Mart, Seekonk, Ma.	77-346, Lettuce, Bibb	Seed unfit for seeding. Standard 80, F 43	S
EXCEL SEED CO., DOWNERS GROVE, IL Osterville Garden, Osterville, Ma.	77-241, Dill, Long Island Mammoth, Run 1	Weight misrepresented in both packets. F below claim L 1.2 g, F 1.02 & 1.03 g ..	S
FERRY-MORSE SEED, FULTON, KY Barnyard Gardens, No. Dartmouth, Ma.	77-78, Parsley, Plain or Single	Seed unfit for seeding. Standard 60, F 30	S
CHAS. C. HART SEED CO., WETHERSFIELD,CT Morse Paint & Supply Co., Wrentham, Ma.	77-26, Lettuce, Iceberg, #2	Weight misrepresented. L 1.51 gr, F .2260 g and .2140 g	S

TABLE IV VARIATIONS FOUND IN LABELING OF VEGETABLE SEEDS 1977 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. No., kind, vars., lot no., description.	VARIATIONS Labeled L,Found F	SERIOUS MINOR TECHNICAL	S M T
CHAS. C. HART SEED CO., WETHERSFIELD, CT Carver Supply, Carver, Ma.	77-236, Onion, White Globe, #1	Weight misrepresented. All 3 packets F below claimed weight		S
KING SEEDS, MINNEAPOLIS, MN Zayre's Springfield, Ma.	77-3043, Chicory, Radichetta, #7212	Packets L "Packed for 1976" Expired		T
MINNINO BROS. AVON, MA King's Dept. Store, Brockton, Ma.	77-2125, Pepper, World Beater, preplanted container.	Only 2 of 6 compartments developed plants. Number of seeds or plants not stated		S
LL OLD SEED CO., MADISON, WI Js Cassidy, Dept. of Food & Agric., Boston, Ma.	77-2517, Bean, Green Podded Bush, #22	Month and year of test required.		T
LL OLD SEED CO., MADISON, WI Js Cassidy, Dept. of Food & Agric., Boston, Ma.	77-2518, Peas, Little Marvel, #339 1 lb. package	Month and year of test is required		T
LL OLD SEED CO., MADISON, WI Jas Cassidy, Dept. of Food & Agric., Boston, Ma.	77-2519, Tomato Crackproof, #435	Year for which packed is required		T
LL OLD SEED CO., MADISON, WI Jas Cassidy, Dept. of Food & Agric., Boston, Ma.	77-2520, Carrot, Waltham, Hi Color, #109	Year for which packaged is required		T
LL OLD SEED CO., MADISON, WI Jas Cassidy,Dept. of Food & Agric., Boston, Ma.	77-2521, Celery, Golden Self Blanching, #117	Year for which packaged is required		T

TABLE IV VARIATIONS FOUND IN LABELING OF VEGETABLE SEEDS 1977 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. No., kind, var., lot no., description.	VARIATIONS Labeled L,Found F	SERIOUS MINOR TECHNICAL S M T
GEO. W. PARK SEED CO., GREENWOOD, SC Jas Cassidy,Dept.of Food & Agric., Boston, Ma.	77-2531, Peas, Alasks, Smooth, #5233	Year for which packaged is required	T
JB RICE, CAMBRIDGE, NY Woolworth, Hyannis, Ma.	77-363, Parsley, Plain, Italian, Run 1	Weight misrepresented. L 1.1 g.,F .65, .69 and .67	S
SEEDWAY, HALL, NY Farm Bureau, N.Dartmouth,Ma.	77-491,Lettuce, Summer Bibb, #96	"Bibb" is variety name, not "Summer Bibb"	T
		Germination Standard 80, F 69	M
SEEDWAY, INC., HALL, NY Farm Bureau, N. Dartmouth,Ma.	77-496, Parsley, Triple Moss Curled, #1225	"Moss Curled" is variety name, not "Triple Moss Curled"	T
SEEDWAY, INC., HALL, NY Farm Bureau, N. Dartmouth, Ma.	77-499, Radish,Early Scarlet Glove, #574	Germination below that claimed. L 87, F 68	S
SEEDWAY INC., HALL, NY Farm Bureau, N. Dartmouth,Ma.	77-505, Winter Squash, Butternut, #1256	Germination below official tolerance. L 77, F 64	M
SURE CROP, GLEN ELLEN, IL Bradlees, Brockton, Ma.	77-2051, Tomato, Better Boy, Pre-planted, #72076. Preplanted in tape with 6 compressed peat moss pellets in a red plastic ball.	Germination L70, F 49. Number of seeds L 14, F 34	S
SURE CROP, GLEN ELLEN, IL Bradlees, Brockton, Ma.	77-2053, All Season Tomatoes, (3 varieties) Pre-planted, #243016, #234017, and #TT7751.	"Below Standard" statement is required on label. Variety Super Siouxgermination standard 75, F 25	S
		Better Boy Standard 75,F 43	S
THOMPSON & MORGAN, INC., SOMERDALE,NJ Fernandes Super-market, Brockton, Ma.	77-2173, T&M's Spicy Fenugreek, #3B	Germination L 97, F 77	S
		Weight L 56 g.,F 47 g	S

TABLE IV VARIATIONS FOUND IN LABELING OF VEGETABLE SEEDS 1977 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab.No., kind, var., lot no., description.	VARIATIONS Labeled L,Found F	SERIOUS MINOR TECHNICAL	S M T
THOMPSON & MORGAN, INC., SOMERDALE, NJ Fernandes Supermarket, Brockton, Ma.	77-2176, T&M's Salad Alfalfa,#29B	Variety name or "Variety Unknown" is required		T

The following reports the variations in the labeling of flower seed as determined by laboratory tests for 1977. Of the 269 samples collected by the State Seed Inspectors, 26 were found to be at variance with the Seed Law.

TABLE V VARIATIONS FOUND IN LABELING FLOWER SEEDS 1977

LABELER/SHIPPER Seller/Consignee	Lab. No., kind, var., lot no., description.	VARIATIONS Labeled L,Found F	SERIOUS S MINOR M TECHNICAL T
AMERICAN SEED , LANCASTER, PA Jas Cassidy, Dept. of Food & Agriculture, Boston, Ma.	77-2516, Marigold, Boy Scout	One of 3 packets short of claimed weight. Claimed 700 mg, F 540 mg.....	S
APPLEWOOD SEED, GOLDEN, CO Cape Agricultural Supply, Sandwich, Ma.	77-409, Yellow Evening Primrose, (Dwarf)	Second packet contained only 1/4 the seeds of the first packet (44.4 mg to 159.5 mg)..	S
ASGROW-MANDEVILLE, CAMBRIDGE, NY Bosnengo, Buzzards Bay,Ma.	77-85, Marigold, Sparky, Run 1	Weight of one packet misrepresented. L .525 g, F .371g	S
BURPEE SEED CO., WARMINSTER, PA Bradford's, Hyannis, Ma.	77-35, Marigold, Petite Spry, #3623-O	Seed unfit for seeding. Standard 65, F 37	S
BURPEE SEED CO., WARMINSTER, PA Bradford's, Hyannis, Ma.	77-40, Strawflower, (helichrysum), Mixed Colors, #4103-0	F to be lettuce seed, not Helichrysum (Strawflower)....	S
BURPEE SEED CO., WARMINSTER, PA Bradford's, Hyannis, Ma.	77-41, Sweet William, Double Mixed Colors (Biennial), #4643-0	F to be Helichrysum, not Dianthus (Sweet William).....	S
BURPEE SEED CO., WARMINSTER, PA Sargent's, Brockton, Ma.	77-2019 Marigold, Goldie	One of 4 packet weight L 280gm F .239 g.	M
BURPEE SEED CO., WARMINSTER, PA Sargent's, Brockton, Ma.	77-2020, Marigold, Petite Spry	One of 3 packets L 100 seeds, 280 mg; F 61 seeds, 200 mg....	S

TABLE V

VARIATIONS FOUND IN LABELING FLOWER SEEDS 1977 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, var., lot no., description.	VARIATIONS Labeled L, Found F	SERIOUS S MINOR M TECHNICAL T
BURPEE SEED CO., WARMINSTER, PA Sargent's, Brockton, Ma.	77-2023, Zinnia, Burpee's Giant	Weight in 2 of 3 packets misrepresented. L 800 mg., F 787 and 710 mg.	M
BURPEE SEED CO., WARMINSTER, PA Sargent's, Brockton, Ma.	77-2025, Petunia, Royalty, Crown Jewels	L 200 seeds, F 150 seeds	S
COMSTOCK-FERRE, WETHERSFIELD, CT Spags Supply, Shrewsbury, Ma.	77-1008, Petunia, Colorama	Seed unfit for seeding. Standard 45, F 5	S
FERRY-MORSE SEED CO., FULTON, KY Mid-Cape Center, Wellfleet, Ma.	77-45, Candytuft, Umbellata, Mixed Colors, #117	Germination below standard. Standard 65, F 45	S
FERRY-MORSE SEED CO., FULTON, KY Mid-Cape Center Wellfleet, Ma.	77-50, Petunia, Hybrid, Showtime, #242A	13170 seeds expected based on 17540 seed/gm. F only 135 seeds	S
FERRY-MORSE SEED CO., FULTON, KY Sargent's, Brockton, Ma.	77-2043, Marigold, Guinea Gold, #200E	Weight labeled 401 mg, F 176.4 and 301.4 mg.....	S
FREDONIA SEED CO., FREDONIA, NY Stobbart's, Franklin, Ma.	77-218, Strawflower, Finest Mixed Colors	Weight misrepresented. L 330 mg, F 294 and 271 mg....	S
FREDONIA SEED CO., FREDONIA, NY Stobbart's, Franklin, Ma.	77-220, Sweet William, Finest Single Mixed Colors, (Biennial)	Weight misrepresented. L 680 mg., F 452 and 451 mg ..	S
CHAS. C. HART SEED CO., WETHERSFIELD, CT Morse Paint & Supply Co., Wrentham, Ma.	77-24, Zinnia, Lilliput Finest Mixed Dwarf, #2	Weight misrepresented. L 907 mg., F 755 mg.....	S
CHAS. C. HART SEED CO., WETHERSFIELD, CT Morse Paint & Supply, Wrentham, Ma.	77-26, Lettuce, Iceberg, #2	Weight misrepresented. L 1.51 g, F .2260 g &.2140 g...	S

TABLE V
VARIATIONS FOUND IN LABELING FLOWER SEEDS 1977 (Continued)

LABELER/SHIPPER Seller/Consignee	Lab. No.,kind, var., lot no., description.	VARIATIONS Labeled L,Found F	SERIOUS MINOR TECHNICAL S M T
CHAS. C. HART SEED CO., WETHERSFIELD, CT Entwhistle, N. Bedford, Ma.	77-133, Celosia, Pampas Plume, #1	Germination below standard. Standard 65, F 45	S
CHAS. C. HART SEED CO., WETHERSFIELD,CT Entwhistle, N.Bedford, Ma.	77-136, Portulaca, Double Mixed Colors, #1	Weight misrepresented. L 181 mg, F 63.8 and 70.8 mg	S
CHAS. C. HART SEED CO., WETHERSFIELD,CT Entwhistle, N. Bedford, Ma.	77-139, Zinnia, Giant Hybrid, Many Colors, #1	Weight misrepresented. L 756 mg., F 458.7 & 396.1 mg	S
CHAS. C. HART SEED CO., WETHERSFIELD,CT Carver Supply, Carver, Ma.	77-228, Cicoria, Catalonga, Italian Dandelion, #1	F 35 weed seeds-mostly Rumex and Chenopodium	S
CHAS. C. HART SEED CO.,WETHERSFIELD,CT Poole's Paint, Brockton, Ma.	77-2085, Portulaca, #1	Weight misrepresented. L 181 mg, F 63 and 46 mg ...	S
NORTHRUP KING & CO., MINNEAPOLIS, MN Woolworth, Brockton, Ma.	77-2110, Bachelor's Buttons, Dwarf Polka, #5187	One packet contains no year on it.	T
PAGE SEED, GREEN, NY MacDonald's, Sandwich, Ma.	77-183, Pinks(Dianthus) Double Imperial Mixed Colors	Weight misrepresented. L 650 mg.,F 214.5 and 212.7 mg.	S
SEEDWAY, INC., HALL, NY Farm Bureau, Waltham, Ma.	77-546, Alyssum, Carpet of Snow, #6116	Seed unfit for seeding. Standard 60, F 7	S

The following table reports the variations in the labeling of mixtures of flower seeds as determined by laboratory tests for 1977. Of the 6 samples collected by the State Seed Inspectors, 4 were found to be at variance with the Seed Law.

TABLE VI
VARIATIONS FOUND IN LABELING FLOWER SEED (MIXTURES) 1977

LABELER/SHIPPER Seller/Consignee	Lab. no., kind, var., lot no., description.	VARIATIONS Labeled L,Found F	SERIOUS S MINOR M TECHNICAL T
ADVANCE SEED CO., FULTON, KY Mammoth Mart, Franklin, Ma.	77-277, Annual Flower Mixture	Aster fraction unfit for planting. Standard 55, F 32	S
APPLEWOOD SEED CO., GOLDEN, CO Cape Agricultural Supply, Sandwich, Ma.	77-408, Wildflower Mix, Perennials and Biennials, #104	Weight misrepresented. L 1 gram, F .608 and .602 g..	S
		Campanula fraction unfit for planting. Standard 50 or 60, F 21	S
BURPEE SEED CO., WARMINSTER, PA Green Thumb Garden, Plymouth, Ma.	77-111, Annuals for cutting, Mixed colors and kinds.	Petunia fraction unfit for planting. Standard 45,F 25 ...	S
FREDONIA SEED CO., FREDONIA, NY Stobbart's, Franklin, Ma.	77-213, Cut Flower Mixture	Weight misrepresented in 2 packets. L 820 mg, F 685, and 734 mg.	S

COMPLIANCE TO THE SEED LAW 1977

The following table shows how the major labelers or shippers of seed complied with the Massachusetts Seed Law. The names listed are those of seed companies, wholesale suppliers prominently advertised divisions of larger firms, or trade names appearing in large letters on the label. These names identify the suppliers which are considered primarily responsible for the label.

The table shows, for each supplier, the number of samples collected for each kind group and the number in each group found to be in compliance or not in compliance with the Seed Law. The numbers of serious, minor and technical variation counts are also shown in the last three columns.

TABLE VII COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1977

LABELER/SHIPPER	Kind Group	Tested Number Samples	Complied Number Samples	Variations (Not in Compliance) Number Samples	Number of Counts Serious	Minor	Technical
ADVANCE SEED CO., FULTON, KY	Agric						
	Ag Mix						
	Veg	17	16	1		1	
	Flower	15	15				
	Fl Mix	1		1	1		
AGWAY, INC., SYRACUSE, NY	Agric	11	7	4		2	3
	Ag Mix	8	3	5	4	1	1
	Veg	25	24	1			1
	Fl	19	19				
	Fl Mix						
AMERICAN SEED, LANCASTER, PA	Veg	12	10	2			2
	Flower	4	3	1	1		
APPLEWOOD SEED CO., GOLDEN, CO	Veg	5	5				
	Flower	4	3	1	1		
	Fl Mix	1		1	2		
ASGROW-MANDEVILLE CAMBRIDGE, NY	Veg	31	29	2	1	1	
	Flower	11	10	1	1		
	Fl Mix						
W.ATLEE BURPEE, WARMINSTER, PA	Veg	51	47	4	5		
	Flower	25	18	7	5	1	1
	Fl Mix	1		1	1		
COMSTOCK-FERRE, WETHERSFIELD, CT	Veg	36	33	3	3		
	Flower	12	11	1	1		
CONLON & DONNELLY, & COMPANY, ATTLEBORO, MA	Ag Mix	2	2				

TABLE VII

COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1977 (Continued)

LABELER/SHIPPER	Kind Group	Tested Number Samples	Complied Number Samples	VARIATIONS (NOT IN COMPLIANCE) Number Samples	Number of Counts Serious	Minor	Technical
COOPERS (NEW ZEALAND), WALNUT CREEK, CA	Veg	11	10	1			1
CRAWFORD GARDEN SUPPLY, PROVIDENCE, RI	Agric.	5	3	2		1	1
	Ag Mix	9	9				
CROSSMAN SEED CORP., E.ROCHESTER, NY	Ag Mix	1	1				
	Veg	12	11	1	1		
	Flower	16	16				
DERBY SEED CO., DERBY, CT	Agric.	4	2	2	1	1	1
	Ag Mix	2	1	1		1	
DRUID HILL SEED CO., BALTIMORE, MD	Ag Mix	3	2	1			1
EXCEL SEED CO., DOWNERS GROVE, IL	Veg	16	15	1	1		
	Flower	9	9				
	Fl Mix						
FARM BUREAU ASSN., WALTHAM, MA	Agric.	1	1				
	Ag Mix	1	1				
FERRY-MORSE SEED CO., FULTON, KY	Veg	41	40	1	1		
	Flower	15	12	3	3		
	Fl Mix	1	1				
FREDONIA SEED CO., FREDONIA, NY	Veg.	19	19				
	Flower	12	10	2	2		
	Fl Mix	1		1	1		
JONATHAN GREEN & SONS, INC., FARMINGDALE, NJ	Agric	2	2				
	Ag Mix	6	3	3		1	2
CHAS. C. HART SEED CO., WETHERSFIELD, CT	Agric.	1	1				
	Ag Mix	1		1			1
	Veg	35	33	2	2		
	Flower	24	17	7	7		
HARVEY-CAREY, BUFFALO, NY	Ag Mix	1	1				

TABLE VII
COMPLIANCE OF SEED DEALERS TO SEED LAW 1977 (Continued)

LABELER/SHIPPER	Kind Group	Tested Number Samples	Complied Number Samples	VARIATIONS (NOT IN COMPLIANCE) Number Samples	NUMBER OF COUNTS Serious	Minor	Technical
HUB CITY FEED & SEED, ABERDEEN, SD	Agric	1		1			1
KING SEEDS, MINNEAPOLIS, MN	Veg	1		1			1
LOFT'S PEDIGREED SEED CO., BOUND BROOK, IL	Agric.	2	2				
	Ag Mix	11	4	7	1	1	6
	Veg	16	16				
	Flowers	7	7				
JD LYONS, INC. CAMBRIDGE, MA	Ag Mix	2	2				
MICHAEL-LEONARD INC., GRANT PARK, IL	Veg	3	3				
MINNINNO BROS., AVON, MA	Veg	2	1	1	1		
NORTHRUP, KING & CO., MINNEAPOLIS MN	Agric	1	1				
	Ag Mix	3	2	1			2
	Veg	61	61				
	Flower	42	41	1			1
	Fl Mix	1	1				
LL OLD SEED CO., MADISON, WI	Veg	5		5			5
OLD FOX CHEMICAL, PROVIDENCE, RI	Ag Mix	3	2	1	1	1	
PAGE SEED, GREENE, NY	Veg	26	26				
	Flowers	25	24	1	1		
GW PARK SEED CO., GREENWOOD, SC	Veg	1		1			1
PLANTATION SEED & SUPPLY CO., PROVIDENCE, RI	Ag Mix	1		1			1
J.B. RICE, CAMBRIDGE, NY	Veg	8	7	1	1		
	Flowers	5	5				
O.M. SCOTT, MARYSVILLE, OH	Ag Mix	4	4				

TABLE VII

COMPLIANCE OF SEED DEALERS TO SEED LAW 1977 (Continued)

LABELER/SHIPPER	Kind Group	Tested Number Samples	Complied Number Samples	VARIATIONS (NOT IN COMPLIANCE) Number Samples	NUMBER OF COUNTS Serious	Minor	Technical
SEABOARD SEED CO., BRISTOL, IL	Ag Mix	5	4	1	2		
SEED CORP. OF AMERICA, BALTIMORE, MD	Ag Mix	2	1	1			1
SEEDWAY, INC., HALL, NY	Veg	31	27	4	1	2	2
	Flower	13	12	1	1		
STANFORD SEED CO., BUFFALO, NY	Agric	12	12				
	Ag Mix	7	3	4	1		3
SURE CROP, GLEN ELLEN, IL	Veg	3	1	2	3		
	Ag Mix	1	1				
THOMPSON & MORGAN, INC., SOMERDALE, NJ	Veg	9	7	2	2		1
TURF RESEARCH INC., GRANT PARK, IL	Agric	1		1	1		
	Ag Mix	4	4				
VAUGHANS SEED CO., BOUND BROOK, NJ	Agric	11	9	2	1		2
	Ag Mix						
	Veg	17	17				
	Flower	6	6				
WHITNEY-DICKENSON, INC., BUFFALO,NY	Agric	22	18	3	1	2	3
	Ag Mix	7	7				

ANALYSIS OF SEED LAW VARIATIONS - 1977

The following table shows the analysis of the points of variation found in the labeling of seed for the 1977 season.

TABLE VIII ANALYSIS OF SEED LAW VARIATIONS

OFFICIAL SEED SAMPLES	Agric.	Agric Mix	Vegetable	Flowers	Flower Mix	Total
Number of samples collected	71	64	494	269	6	904
Number of samples in variation	15	26	36	26	4	106
% of samples in variation	21.1	40.6	7.3	9.6	66.6	11.7
Number of variation counts	21	30	40	26	6	122
Analysis of 122 Counts						
SERIOUS VARIATIONS FOUND:						
False or misleading statement			11	17	2	30
Germination-wide deficiency	3	5	10	5	3	26
Missing information			1			1
Omission of Noxious Weed Statement	1	1		1		3
Purity-wide discrepancy	1	1				2
TOTAL SERIOUS VARIATION COUNTS	5	7	22	23	5	62
MINOR VARIATIONS FOUND:						
Germination deficiency	1	2	3			6
Information inadequate			1	2		3
Purity disparity	1	2				3
Restricted Noxious Weeds found but not in excess of tolerance	3	2				5
TOTAL MINOR VARIATION COUNTS	5	6	4	2		17
TECHNICAL VARIATIONS FOUND:						
Fine/Coarse Unsuitable		10				10
Kind/Variety name omitted or misused	10	6	4			20
Omission of other information			9	1		10
Mistakes	1	1	1			3
TOTAL TECHNICAL COUNTS	11	17	14	1		43

SUMMARY 1977

The results of the official seed investigations for the inspection year 1977 revealed that 116 or 11.7% of the 904 Official Samples collected were at variance with at least one point of the Massachusetts Seed Law. There were 122 variation counts, of which 62 were serious, 17 were minor and 43 were technical. The analysis of Table VIII shows that the serious variations were mainly due to misleading statements, including weight or number discrepancies between labeled and claimed figures, mislabeled seed content especially in vegetable and flower seeds, and to germination failures. The minor variations also include poor germination as well as unlabeled Noxious Weed content. The technical variations were mainly due to misuse of kind/variety names, unsuitable texture and to omission of pertinent information in vegetable seed packages.

CONCLUSIONS

The Seed Laboratory with its testing and reporting program of many years has helped to insure that high quality seeds are to be marketed in the Commonwealth. Any lack of vigilance on the part of this Seed Laboratory or the Seed Control Officials would provide an excuse for a few irresponsible seedspersons to relax standards.

This laboratory has also provided seed quality information to many commercial growers, farmers, and home gardeners, assisting them with tests which can lead to satisfactory crop production.

For these reasons continued support of the testing and control program is needed.

INSPECTION OF COMMERCIAL FERTILIZERS AND AGRICULTURAL LIME PRODUCTS

Report Number 104 For Fiscal Year Ending June 1977

by the Feed, Seed, and Fertilizer Staff of

the Feed, Seed, and Fertilizer Laboratory

West Experiment Station, Amherst, Mass.

UNIVERSITY OF MASSACHUSETTS
COLLEGE OF FOOD AND NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION

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Mixtures Substantially Complying with Guarantees

Manufacturer & Brand	Samples Analyzed
Agrico Chemical Corporation	
Agrico Fertilizer 5-10-5	4
Agrico Fertilizer 16-16-16	2
Agrico Fertilizer 5-10-10	1
Ag Fertilizer 50% N Organic 10-6-4	2
Agrico Fertilizer 10-10-10	3
Agrico Fertilizer 10-20-20	1
Agrico Fertilizer 8-16-16	1
Agrico Grass Feed 24-4-8	1
Agway, Incorporated	
Agway Fertilizer 14-14-14	1
Agway Ferti-Flow Plant Food 5-10-10	2
Agway Ferti-Flow Plant Food 10-15-15	1
Agway Ferti-Flow Plant Food 10-20-20	3
Agway Ferti-Flow Plant Food 15-15-15	2
Agway Ferti-Flow Plant Food 15-8-12	6
Agway Ferti-Flow Plant Food 16-8-8	1
Agway Plant Food 10-10-10	6
Agway Garden Plant Food 5-10-5	7
Agway Plant Food 5-10-10	7
Agway Turfood Regular 10-6-4	4
Agway Turfood Special 10-6-4	4
Agway Turfood Premium 10-6-4	1
Agway Corn Starter 10-20-10	4
Ag Greenlawn & Crabgrass Killer 20-5-7	5
Ag Greenlawn & Broadleaf Killer 21-5-7	7
Ag Greenlawn & Insect Killer 21-5-7	2
Agway Greenlawn 22-6-8	7
Agway Greenlawn 10-5-5	4
Atlas Fish Fertilizer Company	
Atlas Fish Emulsion Fertilizer 5-1-1	1
Black Leaf Products Company	
Black Leaf Liquid Plant Food 12-6-6	1
Bonide Chemical Company	
Weed & Feed Granules 17-4-4	1
Chevron Chemical Company	
Ortho Weed and Feed 25-3-7	4
Ortho Lawn Food 24-4-8	5
Ortho Crabgrass Control & Lawn Food 18-3-6	2
Ortho General Purpose Plant Food 12-6-6	1
Ortho Tomato & Vegetable Food 10-20-5	1
Ortho House Plant Food 5-10-5	1
Ortho Pot & Planter Food 5-10-5	1
Ortho African Violet Food 6-9-5	1
Ortho Vegetable Garden Food 5-10-10	1
Ortho Tomato Food 6-18-6	1

Mixtures Substantially Complying with Guarantees (Continued)

Manufacturer & Brand	Samples Analyzed
Chevron Chemical Company (Cont'd)	
Ortho-Gro Liquid Plant Food 12-6-6	1
Ortho Up-Start Root Stimulator 5-15-5	1
Ortho Rose & Flower Food 8-12-4	1
Ortho Fish Emulsion Fertilizer 5-1-1	1
Clinton Nursery Products Inc.	
New Era Plant Food Tablets 11-15-20	1
New Era African Violet Food 5-12-9	1
New Era Plant Food Instant Action 7-15-8	1
New Era Plant Food Feed Instant Action 5-10-5	1
New Era Instant Action African Violet Food 4-10-6	1
New Era Fish Emulsion Original Fertilizer 5-5-1	1
Conlon & Donnely Company	
C&D Long Lasting Lawn Food 10-6-4	1
Corenco Corporation	
Corenco Turf Green 8-6-4	5
Corenco Golf-Lawn-Trees 10-6-4	2
Corenco Turf Green Special 20-5-10	1
Corenco Pro-Grass Turf Food 10-6-4	3
Corenco Timberline Complete Tree Food 10-8-2	2
Corenco Garden Special 5-10-10	2
Corenco Garden Special 10-10-10	1
Corenco Home-Garden All Purpose 5-10-5	2
Elanco Products Company	
Greenfield 2-Way Green Power Lawn Fert. 30-4-4	1
Greenfield Spring Crabicide Green Crabgrass Preventer & Lawn Fertilizer 22-4-4	1
Espano Company	
Espano Plant-Tone Natural Organic Plant Food 4-3-2	1
Faesy & Besthoff Inc.	
F&B Garden Food 5-10-5	1
F&B Evergreen Food 7-7-7	1
F&B Lawn Food 10-6-4	1
F&B All & Only 100% Natural Organic Garden Food 5-5-5	1
F&B Holly, Azalea & Rhododendron Food 5-10-10	1
Fer-Mel Corporation	
Fer-Mel Premium Lawn Food 25-5-10	1
Green Ribbon Products Co.	
Green Ribbon Lawn Food 10-6-4	1
Heritage House Products	
Heritage House Fortified Lawn 21-6-11	1
Heritage House Garden Plant food 6-9-5	1

Manufacturer & Brand	Samples Analyzed
Hyponex Company, Incorporated	
Hyponex House Plant Food 7-9-19	1
Hy-Trous Corporation	
Hy-Trous African Violet Liquid Fertilizer 4-12-4	1
Hy-Trous Liquid Fertilizer 5-10-5	1
Kerr-McGee Chemical Company	
K-M Plant Food 5-10-5	4
Kerr McGee Plant Food 6-3-6	2
Kerr McGee Plant Food 10-10-10	1
Kerr McGee Plant Food 15-10-10	1
Kerr McGee Plant Food 8-16-16	1
Kerr McGee Plant Food 10-15-15-1.8	1
Kerr McGee Plant Food 15-15-15	1
Kerr McGee Plant Food 8-10-10	1
Kerr McGee Plant Food 10-20-10	1
Kerr McGee Plant Food 5-10-10	2
Kerr McGee Plant Food 15-8-12	1
Perk-Up Plant Food 5-10-5	4
Perk-Up Lawn Food 10-6-4	3
Deerfield Lawn Food 10-6-4	1
Deerfield Plant Food 5-10-5	1
K-M Rose Food 7-10-5	2
K-M Evergreen Food 4-10-4	3
K-M 3-Way Turf 'N Tree Food 10-6-4	4
Green Ribbon Plant Food 5-10-5	1
Kerr McGee Super Spud Plant Food 8-10-10-3	1
Lebanon Chemical Company	
Greenview Green Power 30-4-4	3
Lebanon Green Gold Lawn Food 23-7-7	2
Greenview Shrub Mate 12-10-10	1
Greenview Two-Way Green Power 30-4-4	3
Greenview Crabicide Green Crabgrass Preventer plus Lawn Fertilizer 22-4-4	2
Greenview Triple Spring Lawn Treatment 16-8-4	1
Agrico ACR + Evergreen Fertilizer 12-10-10	1
Lebanon Premerge Crabgrass Killer and Lawn Fertilizer 10-6-4	1
Greenview Winter Green Fall Fertilizer 10-18-10	1
Greenview Spring Tonic Fertilizer 20-4-4	4
Greenview Modern Green Power 30-4-4	2
Turf Master Grow Lawn & Garden Fertilizer 5-10-5	1
Homestead Hi-Organic Lawn Food 10-6-4	1
Lebanon Plant Food 5-10-10-2	2
Garden Spot Lawn & Turf Fertilizer 10-6-4	1
Garden Spot Lawn & Garden Premium Grade Non-Acid 5-10-5	1
Lebanon Crabgrass Killer & Lawn Fertilizer 10-6-4	1
Greenskeeper Fertilizer for Golf Courses 20-4-10	1
Lebanon Grass Food 10-6-4	1

Mixtures Substantially Complying with Guarantees (Continued)

Manufacturer & Brand	Samples Analyzed
Lebanon Chemical Company (Cont'd)	
Lebanon Green Gold w/Weed Killer 23-7-7	1
A-C R-E Fertilizer with Chelated Iron 1% 6-7-5 ..	1
Leisure Group Incorporated	
Black Magic Blossom Booster for African Violets 4-10-10	1
Black Magic Colorless Fish Niger Brand 10-5-5 ...	1
Lofts Pedigreed Seed Incorporated	
Loft's Lawn Feed for Turf 24-4-8	1
Loft's Lawn Feed For Turf 23-8-7	2
Loft's Weed & Feed 10-6-4	2
Luzerne Fertilizer Company	
Town Square Lawn Food 10-6-4	2
Town Square Plant Food 5-10-5	1
Massachusetts Nurserymen's Assoc.	
MNA Turf-O-Ganic 10-6-4	3
MNA Plant-O-Ganic 8-8-8	6
MNA Turf Kleen 20-10-5	1
MNA Country Gardener 5-10-5	4
New Plant Life, Div. of Chas. O. Finley & Co., Inc.	
New Plant Life African Violet Plant Food 4-10-6...	1
Old Fox Chemical Company	
Old Fox Estate Green 10-6-4	1
Old Fox Turf "40" Food 10-6-4	1
Old Fox Turf Food w/Natural Org. N 10-6-4	2
Old Fox Plant Food (not labeled)	1
Old Fox Specialty w/Docthal 30-3-10	1
Old Fox Fertilizer 10-10-10	2
Old Fox Fertilier 15-15-15	1
Old Fox Fertilizer 10-20-10	1
Old Fox Velvet Green w/Nat. Org. N 8-6-4	2
Old Fox Fertilizer for Tobacco 6-3-6-2	2
Old Fox Lawn Gro & Crabgrass Counted 10-6-4	1
Robert B. Peters Co., Inc.	
Peter's Special Plant Food Garden Special 18-18-18	1
Plantabbs Corporation	
Plantabbs Liquid Plant Food 10-10-10	1
Plantabbs Terrarium Plant Food 18-6-12	1
Hy-Gro Orchid Schedule Plant Food 18-18-18	1
C Food Fish Extract Liquid 5-2-2	1
Pro-Lawn Products Inc.	
Pro-Lawn Plus (50% N) 22-6-8	1
Pro-Lawn Plus Insect Killer 21-5-7	1
Pro-Lawn Plus Broadleaf Weed Killer 21-5-7	1
Pro-Lawn Plus Crabgrass Killer 20-5-7	1

Manufacturer & Brand	Samples Analyzed
Rain Bird Corporation	
Rain Bird Timed Release Tomato & Veg. Food 17-10-12	1
Rapid-Gro Corporation	
Rapid-Gro Soluble Plant Food 23-19-17	1
Schultz Company	
Schultz Instant Liquid Plant Food 10-15-10	1
O.M. Scott & Sons	
Scotts Halts Plus For Established Lawns 20-6-6	6
Scotts Turf Builder Lawn Fertilizer 23-7-7	3
Scotts Turf Builder Lawn Fertilizer 26-3-3	9
Scotts Plus 2 Turf Builder 25-3-3	8
Scotts Plus 2 Turf Builder 22-7-7	4
Scotts Super Turf Builder 34-5-5	1
Scotts Halts & Crabgrass Preventer for New Seedlings 16-21-5	3
Scotts Starter Fertilizer 18-24-6	3
Scotts Vegetable Garden Fertilizer 18-24-6	5
Scotts Turf Builder & Halts Crabgrass Preventer 22-3-3	2
Scotts Halts Plus w/Dandelion Control 20-6-6	4
Scotts Grow Flower 18-12-14	1
Scotts Lawn Insect Control & Fertilizer 28-6-4	1
Scotts Super Turf Builder 32-5-3	1
Scotts Shrub's & Tree Weed Preventer & Fer. 20-4-8	1
Scotts Weed Control & Lawn Fertilizer 32-4-4	1
Scotts Turf Builder & Lawn Disease Preventer 18-6-6	1
Sear's Roebuck & Company	
Sears Feed & Weed with 24-D 10-6-4	1
Sears Green Karpet Lawn Food 20-10-5	1
Sears Superfine Lawn Food 25-5-10	1
Stanford Seed Company	
Stanford's Old English Seed Food 12-4-8	1
Stanford's Old English Weed & Feed Lawn Fertilizer with 2,4D & Silvex 10-6-4	1
Stanford's Old English Crabgrass Killer with Lawn Food 10-6-4	1
Stanford's Old English Lawn Food Urea Form 10-8-3	1
Stanford's Old English Lawn Food 25-5-10	1
Stern's Nurseries Inc.	
Stern's Miracle-Gro for Tomatoes 18-18-21	1
Stern's Miracle-Gro Acidifier & Plant Food 30-10-10	1
Stern's Miracle-Gro All Purpose Plant Food 15-30-15	1
Stern's Miracle-Gro for Roses 18-24-16	1
Stern's Miracle-Gro Therapy Plant Food 10-8-7	1

Mixtures Substantially Complying with Guarantees (Continued)

Manufacturer & Brand	Samples Analyzed
Stewart's Nursery Inc.	
Stewart's Country Green Fertilizer 10-6-4	1
Stim-U-Plant Incorporated	
Stim-U-Plant African Violet Food 5-8-7	1
Swift Chemical Company	
Golden Vigoro Lawn Fertilizer 18-4-8	2
Vigoro All-Purpose Fertilizer 6-10-4	1
Swiss Farms Incorporated	
Swiss Farms Plant food All-Purpose 4-8-4	2
Swiss Farms Plant Food African Violet Liquid 4-12-8	1
Minnesota Mining & Manufacturing Co.	
Precise Timed Release Plant Food 12-6-6	1
Precise Timed Release Shrub & Plant Food 20-10-10	1
Precise Timed Release African Violet Food 8-11-5	1
Precise Timed Release Tomato Food 6-18-6	1
USS-Agri Chemicals, Incorporated	
USS Vertagreen Plant Food 5-10-5	1
USS vertagreen Plant Food 5-10-10	2
USS Vertagreen Plant Food 10-10-10	2
USS Vertagreen Power Prills Plant Food 15-40-5 w/Zn	1
USS Vertagreen Double Duty & 2,4-D & Silvex 24-4-9	1
USS Vertagreen Triple Duty 10-6-4	1
USS Cattle Manure 1-1-1	1
Gold Bond Multi-Purpose Fertilizer 5-10-5	1
USS Vertagreen Turf & Tree Fertilizer 10-6-4	3
USS Vertagreen for Vegetables 6-12-12	1
USS Vertagreen Fertilizer Bicentennial Spec.17-7-6 .	1
USS Vertagreen Tournament Plus 19-5-9	1
USS Vertagreen Lawn Feed w/Magnese 25-5-10	1
USS Vertagreen Acid Loving Plant Food 5-10-10	1

Mixtures Showing Deficiencies Exceeding Tolerance

Manufacturer & Brand	Water Insoluble Nitrogen	Nitrogen Found	Available Phosphoric Acid	Water Soluble Potash
Agway, Incorporated				
Agway Alfa B, B.45% 0-10-10			9.9	36.0**
Agway Corn Starter, Mg. 1.8 B.05,Zn .2, 10-20-10..		9.5	18.5**	10.8
Agway Corn Starter Plant Food 10-20-10		9.5	17.5**	11.3
Agway Golf Course 20-5-10		8.8**	5.4	12.2
Agway Greenlawn Pro 22-6-8	7%	22.2	7.0	6.6**
Agway Ferti-Flow Plant Food B.02, 10-10-10		10.6	10.0	8.5**
Agway Ferti-Flow Plant Food 15-15-15		14.5	13.3**	16.6
Agway Ferti-Flow Plant Food 15-8-12		12.7**	15.1	14.5
Agway Ferti-Flow Plant Food 5-20-20		4.6	17.8**	17.5**
Agway Ferti-Flow Plant Food B.02, 10-20-20..		10.9	20.0	18.1**
Agway Ferti-Flow Plant Food 10-20-20		10.1	20.4	18.5**
Agway Ferti-Flow Plant Food 10-20-20		10.8	19.0**	19.3
Agway Ferti-Flow Plant Food 10-20-20		10.1	20.4	18.4**
Agway Ferti-Flow Plant Food 10-20-20		10.3	20.5	18.6**
Agway Ferti-Flow Plant Food 10-20-20		9.9	20.4	18.6**
Agway Ferti-Flow Plant Food 15-15-15.....		15.4	16.3	13.8**
Agway Greenlawn Plus 22-6-8		21.9	6.6	12.1#
Agway Ferti-Flow Plant Food 0-15-30			18.4	23.1**
Agrico Chemical Company				
Agrico Fertilizer 10-20-10		8.4**	17.7**	10.7
Agrico Fertilizer 10-15-15		8.8**	9.8**	14.3
Agrico Fertilizer 10-6-4		16.6#	6.8	3.6
Agrico Fertilizer 10-6-4		7.5**	6.2	4.6
Agrico Fertilizer 8-6-2 ..		5.0**	5.8	4.6
Agrico Fertilizer 5-10-10		4.2**	8.4**	9.6
Caldwell & Jones Inc.				
Surge Container Fertilizer 18-6-12		16.2**	8.6	10.9**

**Deficient
Excessive

Mixtures Showing Deficiencies Exceeding Tolerances(Continued)

Manufacturer & Brand	Water Insoluble Nitrogen	Nitrogen Found	Available Phosphoric Acid	Water Soluble Potash
Chevron Chemical Company				
Ortho Weed and Feed 25-3-7		33.1#	2.2	5.5**
Ortho Lawn Food 24-4-8		22.5**	3.1	9.3
Ortho Lawn Food 24-4-8		22.0**	4.3	10.2
Ortho Lawn Food 24-4-8		19.6**	5.6	9.8
Ortho Lawn Food 24-4-8		23.0**	5.1	12.0
Corenco Corporation				
Corenco Weed-B-Done Feeds & Weeds 18-3-4		15.0**	9.0#	7.6#
Corenco Golf-Lawn-Trees 10-6-4		7.9**	8.9	2.8**
Corenco Weed-B-Done Feeds & Weeds 18-3-5		13.8**	3.9	6.4
Corenco Home Garden All Purpose Fert. 5-10-5		3.9**	11.7	7.1
Faesy & Besthoff Inc.				
F&B Rose Food 8-10-4...		9.7	11.5	8.9#
Kerr-McGee Chemical Co.				
Deerfield Plant Food 5-10-5		7.7	8.9**	5.3
K-M Granular Fert. 5-10-10		5.0	9.1**	9.6
Kerr-McGee Plant Food 10-20-20		8.7**	19.4	19.5
Kerr-McGee Plant Food 10-20-20.....		17.5**	13.9	9.4
Kerr-McGee Plant Food 5-10-5		6.6	8.8**	6.6
Perk-Up Plant Food 5-10-5		6.5	8.4**	4.7
K-M Plant Food 1.5% WIN Urea-Form 5-10-5		6.7	8.3**	6.1
K-M 2'N 1 Weed & Feed w/Silvex + 2,4D 10-6-4		14.2	4.8**	3.6
K-M Luxura Lawn Food 35% WIN,Urea-Form, w/Silvex 23-5-5		20.6	7.3	5.0
Perk-Up Lawn Food 10-6-4		9.7	4.1**	3.9
K-M Superphosphate 0-20-0			17.7**	
Kerr-McGee Plant Food 0-15-30			18.8	27.4**
Kerr-McGee Plant Food 20-0-10		14.2**		11.1
Kerr-McGee Plant Food 20-0-34		23.2		27.6**

**Deficient
Excessive

Mixtures Showing Deficiencies Exceeding Tolerances (Continued)

Manufacturer & Brand	Water Insoluble Nitrogen	Nitrogen Found	Available Phosphoric Acid	Water Soluble Potash
Lebanon Chemical Company				
Lebanon Rose Food 7-7-7 ..		9.5	11.8	5.9**
Lebanon Country Club Fert. 12-4-8		12.2	3.8	6.8**
Greensview Spring Toxic Fert. 20-4-4		22.0	4.6	2.9**
Greenview Green Power 7.5% WIN, 30-4-4		25.9**	6.0	7.1
Greenview Garden Mate 10-20-10		10.6	18.3**	9.9
Lebanon Superphosphate 0-20-0			17.2**	
Luzerne Fertilizer Company				
Town Square Plant Food 5-10-5		3.6**	13.0	3.7**
Massachusetts Nurserymen's Assn.				
MNA Country Gardener 5-10-5 ..		5.8	7.9**	7.2
MNA Turf-O-Ganic,5% WIN, 10-6-4		10.1	4.0**	5.2
Old Fox Chemical Company				
Old Fox Turf Food 10-6-4..		9.0	4.7**	3.5
Old Fox Garden Food 5-10-5		6.7	7.4**	12.2#
Old Fox Fertilizer 15-10-10		15.7	11.2	4.2**
Old Fox Fertilizer 10-10-10		10.4	8.62**	9.5
Old Fox Fertilizer 15-8-12		15.0	12.5#	5.0**
Old Fox Fertilizer 15-15-15		14.1**	12.1**	17.6
Old Fox Fertilizer 15-10-10		13.9**	12.9	8.9**
Old Fox Fertilizer, Mg. 1.2% 5-10-10-2		6.5	7.8**	11.2
Old Fox Fertilizer, Mg. 1.2% 5-10-10-2		7.3	9.8	8.5**
Old Fox Fertilizer, Mg. 1.2% 5-10-10-2		6.0	7.3**	17.5#
Old Fox Turf Gran. w/Nat. Organic N., 10-6-4		9.5	4.75**	8.0
Old Fox Garden Food 5-10-5		4.7	8.3**	9.6
Old Fox Estate Green 10-6-4		8.8**	6.5	5.1
Old Fox Acid Soil Plants 6-10-6		6.2	16.2#	5.9
Old Fox Garden Food 5-10-5		6.2	7.1**	15.5#
Robert B. Peters Company, Inc.				
Peter's Special Soluble Plant Food 15-30-15.....		18.0	28.2**	14.7
O.M. Scott & Sons				
Scotts Turf Builder Plus 2 25-3-3		22.4**	6.6	7.5
Scotts Turf Builder Lawn Fert. 26-3-3		23.7**	6.9	6.4
Scotts Halts Plus for New Seedlings 16-21-5		18.1	17.8**	5.2

** Deficient
# Excessive

Mixtures Showing Deficiencies Exceeding Tolerances (Continued)

Manufacturer & Brand	Water Insoluble Nitrogen	Nitrogen Found	Available Phosphoric Acid	Water Soluble Potash
Sears, Roebuck & Company				
Sears Premium Season-Long Fertilizer 30-3-6		30.4	4.2	4.0**
Swift Agricultural Chemical Corp.				
Golden Vigoro Lawn Fert. 18-4-8		16.4**	4.1	10.1
Universal Chemical Company				
Electra Plant Food Highly Organic 5-10-3		4.8	8.7**	4.0
USS Agric-Chemical Corp.				
USS Vertagreen Double Duty Fertilizer 24-4-9.....		22.9**	7.8	11.2
USS Vertagreen Plant Food 6-12-12		7.3	16.5**	11.8
USS Vertagreen Fertilizer Bicentennial Spec. 17-7-6		15.1**	7.5	7.6

**Deficient
Excessive

Nitrogen, Phosphate & Potash Products

Manufacturer & Brand	Nitrogen Found	Available Phosphoric Acid Found	Total Phosphoric Acid Found	Water Soluble Potash Found
Agrico Chemical Company				
Agrico Muriate of Potash 0-0-61				61.4
Agrico Triple Superphosphate 0-44-0..		46.		
Agrico Sul-Po-May 11%Mg 0-0-22-11				21.7
Agrico Agrinite 5.5% WIN 7-0-0	7.4			
Agrico Agrinite 7-0-0 ..	8.2			
Agrico Urea 46-0-0	46.2			
Agrico Fertilizer Urea 46-0-0	46.2			
Agrico Di-Ammonium Phosphate 18-46-0	17.9	46.1		
Agrico Fertilizer 0-0-22-11				21.9
Agway Incorporated				
Agway Ammonium Nitrate 34-0-0	34.2			
Agway Organic Lawn Food 5-4-0	4.8	4.0		
Agway Urea Fertilizer 46-0-0	46.1			
Agway 34N Ammonium Nitrate 34-0-0	33.7			
Agway Ferti-Flow B .02%, 0-15-30		14.3		30.6
Agway Urea Fertilizer 46-0-0	46.6			
Agway Organic Lawn Food 5-4-0	5.6	4.0		
Agway Muriate of Potash 0-0-60				59.8
Agway Organic Lawn Food 5-4-0	5.5	3.9		
Agway Triple Superphosphate 0-44-0		43.1		
Agway Organic Lawn Food 5-4-0	5.5	3.9		
Agway Triple Superphosphate 0-44-0		43.8		
Agway Muriate of Potash 0-0-60				58.8
Agway Ferti-Flow Plant Food 0-15-30		14.0		30.8
Agway Urea 46-0-0	46.1			
Agway Di-Ammonium Phosphate 18-46-0	18.1	46.3		
Agway Muriate of Potash 0-0-60				60.0

Nitrogen, Phosphate, & Potash Products (Continued)

Manufacturer & Brand	Nitrogen Found	Available Phosphoric Acid Found	Total Phosphoric Acid Found	Water Soluble Potash Found
Agway, Incorporated				
Agway Urea Fert. 46-0-0	46.0			
Agway Triple Phosphate 0-44-0		45.1		
Agway Di-Ammonium Phosphate 18-46-0	18.0	45.6		
Agway Potash 0-0-60 ..				60.9
American Cyanamid Company				
Aeroprills Ammonium Nitrate 34-0-0	34.0			
Caldwell & Jones Incorporated				
C&J Specialty Fert. 0-20-0		20.5		
Corenco Corporation				
Corenco Bone Meal Fert. 1-23-0		16.1	28.1	
Corenco Sulfate of Ammonia 20.3-0-0....	20.7			
Corenco Organic Turf Fert. 5-5-0	5.8	4.7		
Corenco 20% Superphosphate 0-20-0 ...		20.7		
Corenco Bone Meal 1-23-0	1.5	20.98	30.86	
Corenco Nitroform Plant Food, 25% WIN, 38-0-0	37.8			
Corenco Organic Turf Fert. 45% WIN 5-5-0 (WIN Found 4.7)	5.6	4.9		
Faesy & Besthoff Incorporated				
F&B Pure Steamed Bone Meal 1% WIN, 23% Total P Acid, 1-11-0	1.4	15.7	31.30	
Kerr-McGee Chemical Company				
Kerr-McGee Plant Food Muriate of Potash 0-0-60 ...				60.0
Kerr-McGee Plant Food 0-20-20		21.8		19.0
K-M NitroGanic All Org. Fert. 4.5% WIN 5-4-0	6.9	6.6		
K-M NitroGanic All Org. Fert. 4.5% WIN, & activated sludge 5-4-0	5.4	4.3		
K-M 20% Superphosphate Fert. 0-20-0		21.0		
K-M 20% Superphosphate Fert. 0-20-0		19.8		

Nitrogen, Phosphate, & Potash Products (Continued)

Manufacturer & Brand	Nitrogen Found	Available Phosphoric Acid Found	Total Phosphoric Acid Found	Water Soluble Potash Found
Kerr-McGee Chemical Corporation				
K-M Bone Meal Total Phos. Acid 20%, 1-12-0	2.3	16.3	27.8	
Lebanon Chemical Company				
Lebanon Country Club Fert. 6% WIN, 20-0-10 ..... (W.I.N. Found 8.4)	19.3			10.2
Massachusetts Nurserymen's Assn.				
MNA Superphosphate 0-20-0		24.1		
Mississippi Chemical Corporation				
MCC Prilled 45% Urea Fertilizer 45-0-0	45.1			
Wilson & Geo. Meyer & Co.				
Viking Ship Brand Calcium Nitrate 15.5-0-0....	15.0			
Old Fox Fertilizer Company				
Old Fox Fertilizer 45-0-0	44.5			
The Sewerage Commission				
Milwaukee Milorganite 5.5% WIN, 6-2-0 ..	6.6	2.0		
Milwaukee Milorganite 5.5% WIN, 6-2-0....	6.8	2.2		
Milwaukee Milorganite 5.5% WIN, 6-2-0...	8.0	2.2		
Milwaukee Milorganite 5.5% WIN, 6-2-0...	6.8	2.5		
Milwaukee Milorganite 5.5% WIN, 6-2-0....	6.9	2.3		
Milwaukee Milorganite 5.5% WIN, 6-2-0..	6.6	2.3		
Milwaukee Milorganite 5.5% WIN, 6-2-0..	6.9	2.1		
Milwaukee Milorganite 5.5% WIN, 6-2-0..	6.1	2.3		
Smith-Douglas Company				
Di-Ammonium Phosphate 18-46-0	18.3	46.6		
Sudbury Laboratories				
Sudbury Unit X Tailor Made Nit. 44-0-0..	45.9			

Nitrogen, Phosphate, & Potash Products (Continued)

Manufacturer & Brand	Nitrogen Found	Available Phosphoric Acid Found	Total Phosphoric Acid Found	Water Soluble Potash Found
Sudbury Laboratories				
Sudbury Unit Y Tailor Made Phosphorus 0-44-0		43.8		
Sudbury Unit Z Tailor Made Potash 0-0-44..				44.0
Swift Agricultural Chemical Corp.				
B.D.U. Par Ex (Diurea) 27.9% WIN, 31-0-0	36.4			
Vicksburg Chemical Company				
Vicknite Potassium Nitrate 13.75-0-44.50	13.5			

Pulverized and Composted Animal Manures

Manufacturer & Brand	Total Nitrogen	Total Phosphoric Acid	Water Soluble Potash
Agway Incorporated			
Agway Composted Cow Manure 1-1-1	.60	.70	.72
Conrad Fafard, Incorporated			
Fafard Cow Manure 1-1-.5.....	.86	.71	.32
Fafard Organic Cow Manure 1-1-.5....	.68	.5	.4
S Bars Dehydrated Cow Manure 2-1-2..	1.9	1.04	2.1
Continental Peat Company			
CP Ranch Composted Manure .5-.5-.5	1.0	.65	.5
Corenco Corporation			
Corenco Organic Cattle Manure 2-1-2	2.4	1.89	1.7
Corenco Organic Cattle Manure 2-1-2	1.6	1.09	1.4
Corenco Organic Cattle Manure 2-1-2	1.50	1.28	1.8
Downey Hollow Farm			
Pure Quill Dehydrated Poultry Manure 3-6-3	2.3	5.4	2.7
Greenlife Products Company			
Greenlife Cow Manure 2-1-2	1.6	1.28	1.6
Greenlife Cow Manure 2-1-2	1.0	.58**	.8**
Kerr-McGee Chemical Company			
K-M Sheep Manure 1-1-1	.78	1.02	1.11
Organic Compost Corporation			
Organic Cow Manure 1-1-1	.9	1.1	1.0
Fertilife Cow Manure 1-1-1	.74	.87	.93
Fertilife Composted Cow Manure 1-1-1	1.0	.95	1.10
Fertilife Composted Cow Manure 1-1-1	.81	.86	.96
Fertilife Composted Cow Manure 1-1-1	1.1	1.2	1.1
Pure-Tex Cow Manure Company			
Pure-Tex Dehydrated Cow Manure 2-1-2	2.4	1.8	2.0
Pure-Tex Dehydrated Cow Manure 2-1-2	2.6	1.9	2.4
Relko Incorporated			
Tex Organic Cow Manure 2-1-2	2.6	2.8	1.1
Tex Organic Cow Manure 2-1-2	2.4	1.76	2.3
Tex Organic Cow Manure 2-1-2	2.1	1.54	2.2
Searle Agriculture, Incoporated			
Tilleez Processed Cow Manure 2-1-2	2.1	1.6	1.4

**Deficient

Pulverized and Composted Animal Manures (Continued)

Manufacturer & Brand	Total Nitrogen	Total Phosphoric Acid	Water Soluble Potash
Stanford Seed Company			
Southland Dehydrated Cow Manure 2-1-2	1.5	1.4	1.6

Agricultural Lime Products

Manufacturer & Brand	Calcium Oxide		Magnesium Oxide	
	Guarantee	Found	Guarantee	Found
Conklin Limestone Company				
Conklin Lawn & Garden Limestone	34.	48.1	1.5	3.04
Agricultural Ground Limestone	28.	31.50	18.	18.56
Conklin Dolomite Lawn & Garden Limestone.....	28.	32.38	18.	19.08
Limestone Products Corporation				
Lime Crest Granular Limestone	39.	39.0	2.	4.53
Vermont Marble Company				
Lawn & Garden Limestone	50.	54.25	1.	.30**

**Deficient

1977 FERTILIZER WHOLESALERS

Agricultural Products Co., Div. of Crawford Garden, 589 Atwells Ave., Providence, Rhode Island 02909
Agway Inc., Fertilizer-Chemical Div., Box 1333, Syracuse, N.Y. 13201
Alberto Culver Company, 2525 Armitage Ave., Melrose Park, Ill.60160
Alfco Inc., Second & St., Clair Streets, Marietta, Ohio 45750
American Cyanamid Co., P.O. Box 400, Princeton, N.J. 08540
Amway Corp., 7575 E. Fulton Rd., Ada , Michigan 49355
The Andersons-Lawn Fert. Sec.(DBA Free Flow Fert. Co.), P.O. Box 119, Maumee, Ohio 43537
Asgrow-Mandeville Div. of Vaughan-Jacklin Corp., Chimney Rock Road, Bound Brook, N.J. 08805

The F. A. Bartlett Tree Expert Co., 2770 Summer St., Stamford, CT 06905
BioCon Div., Searle Agriculture Inc., Box 993, Hereford, Texas 79045

C.&E. Products Inc., Box 192, Rt. #3, LeMars, IA 51031
Cadwell & Jones INc., 353 Park Ave., E. Hartford, CT 06108
Chemargron Industries Inc., P.O. Box 4767, Chicago, Ill. 60680
Chevron Chemical Co., Ortho Div., 940 Hensley, Richmond, CA 94804
Conrad Fafard Inc., P.O. Box 3033, Springfield, Ma. 01101
Clinton Nursery Products Inc., Boston Post Rd., Clinton, LCT 06413
Carpole's Inc., Box 32, Garfield, MN 56332

D.H. & R. Co., Inc., P.O. Box 333, LaPorte, Indiana 46350
The Davey Tree Expert Co., 117 S. Water St., Kent, Ohio 44240
Delta Earth Inc., P.O. Box 8045, Chicago, Ill. 60680
Diamond Crystal Salt Co., 10 Burlington Ave., Wilmington, Ma.01887
The Dow Chemical Co., 2030 Dow Centr, Midland, Michigan 48640
E.I. duPont deNemours & Co., Attn: M. B. Lore, Legal Dept., Wilmington, DE 19898

Earl Grissmer Co., Inc., 7950 Castleway Drive, Indianapolis, Ind. 46250
Encap Products Co., P.O. Box 278, Mount Prospect, Ill. 60056
Encoat Chemicals Corp., 1530 Chestnut St., Philadelphia, Pa. 19102

Faesy & Besthoff Inc., 143 River D., Edgewater, N.J. 07020
The Fer-Mel Corporation, 304 Main St., Wethersfield, CT 06109

W.R. Grace & Co., AGric. Chemical Group, P.O. Box 368, Wilmington, NorthCarolina 28401
Greenlife Product Co., Inc., P.O. Box 72 West Point, Virginia 23181

Hercules Inc., 910 Market St., Wilmington, Del 19899
Heritage House Products Corp., 300 Lake Rd., Box 219, Medina, OHio 44256
A.H. Hoffman, Inc., P.O. Box 8, Landisville, Pa. 17538
Hortigro Inc., 40 Reyam Rd., Lynbrook, N.Y. 11563
The Hyponex Co., Inc., 3489 Sawmill Rd., Copley, Ohio 44321

International Spike Inc., 462 East High St., Lexington, KY 40508

Jeremy Chemical Corp., 5 Lawrence St., Bloomfield, N.J. 07003
Jungle Grow the Products Inc., 2805 Columbia St., Torrance, CA 90503

Kerr McGee Chemical Corp., Kerr McGee Center, Oklahoma City, Okla. 73125

Lawn A Mat Chemic. & Equip. Corp., c/o Rockland Chemical Co., Inc.
P.O. Box 809, West Caldwell, N.J. 07006
Lawn Medic Inc., 10 Gates St., Bergen, N.Y. 14416
Lebanon Chemical Corp., P.O. Box 180, Lebanon, Pa. 17042
Leeming Division Pfizer Inc., 235 East 42nd St., New York, N.Y. 10017
Lofts Pedigreed Seed Inc., Chimney Rock Rd., Bound Brook, N.J. 08805
Loncala Phosphate Co., P.O. Box 766, High Springs, Florida 32643
John D. Lyon, Inc., 143 Alewife Brook Pkwy, Cambridge, Ma. 02140

MacAndrews & Forbes Co.,(Rohm & Haas Distributor), Third Street,
& Jeffereson Ave., Camden, N.J. 08104
Massachusetts Nurserymen's Assn., 715 Boylston St., Boston, Ma.02116
J.J. Mauget Co., P.O. Box 3422, Burbank, Ca. 91504
Medina Agricultural Products Co., Inc., P.O. Box 309, Hwy 90,West,
Hondo, Texas 78861
3M Company, Minnnesota Minning & Manufacturing Company, 3 M Center,
Building 209-BC, St. Paul, Minnesota 55101

Nassau Garden Inc., 366 North Broadway, Jericho, N.York 11753
The Natural Development Co., P.O. Box 215, Bainbridge, Pa. 17502
Nature Life a Division of the Retail Group Inc., 2238 Florida
Avenue, South, Minneapolis, Minn. 55426
Natural Plant Food Co., P.O. Box 82501, Oklahoma City, Okla. 73108
New Plant Life, P.O. Box 45, LaPorte, Indiana 46350
Nutri-Sol Chemical Company, Inc., 4508 W. Osborne-P.O. Box 15124,
Tampa, Florida 33684

Organic Compost Corp., P.O. Box 817, Germantown, Wisconsin 52022
Organic Compost Corp., P.O. Box 70, Oxford, Pa. 19363
Organic Compost Corp., reg. for Gold Star Co., Weston, Ma.
Organic Recycling Inc., 967 So. Matlack St., West Chester, Ma. 19380

Paygro Division & Orgro Product Co., Div. of the Mead Corp.
P.O. Box 221, 118 W. First St., Dayton, OH. 45401
Pecos Feed Yard, Inc., P.O. Box 1712-Pecos, Texas 79772
Robert B. Peters Co., Inc., 3833 Pennsylvania St., Allentown, Pa. 18104
Plantabbs Corp., Timonium, MD 21093
Plant Marvel Lab.'s, 624 West 119th St., Chicago, Ill. 60628
Power-O-Peat, Box 956, Gilbert, MN. 55741
Premier Brands Inc., 350 Madison Ave., New York, New York 19007
Pro-Lawn Products Inc., Box 1358, Syracuse, N.Y. 13201

RaPid Gro Corporation, 88 Ossian St., Dansville, N.Y. 14437
Rex Plastics Inc., 1200 Unity St., Thomsanville, N.C. 27360
Rhodia INc., Agricultural Div., P.O. Box 125, Monmouth Junction, N.Y. 0885
Ringer Corp., 6860 Flying Cloud Drive, Eden Prairie, MN 55343
Ross Daniels,Inc., P.O. Box 430-,1720 Fuller Rd., West Des Moines, Iowa 50

Schultz Company, 11730 Northline, Maryland Heights, MO 63043
O.M . Scott & Sons, Marysville, OHio 43040
Sea Organic Division of DPM Associates, Inc., 195 Boston St.,
Lynn, Ma. 01904
S&D Products Inc., P.O. Box 66, Prairie du Chien, Wisconsin 53821
Sears, Roebuck & Co., Dept. 671, Sears Tower, 15th Floor, Chicago,Il.60684
The Sewerage Commission, Milwaukee, Wisconsin
700 East Jones St., P.O. Box 2079, Milwaukee, WI 53201
Sierra Chemical Co., 1001 Yosemite Dr., Milpitas, CA 95035
Sterns Nurseries Inc., 404 William St., Geneva, N.Y. 14456
Stim-u-plant Inc., 2077 Parkwood Ave., Columbus, Ohio 43219
Sudbury Laboratory Inc., 572 Dutton Rd., Sudbury, Ma. 01776
Swift Agricultural Chemicals Corp., P.O. Box 340, Glen Burnie, MD 21061
Swiss Farms Inc., Box F, Philmont, N.Y. 12562

TransAgra Corporation, 1355 Lynnfield Rd., Suite 261, Memphis,TN 38138
Turf Specialties Inc., Route 101, Greenland, New Hampshire 03840

United States Gypsum Co., 101 South Wacker Dr., Chicago, Ill.60606
USS Agri-Chemicals, P.O. Box 3478, Baltimore, Md 21226
Universal Chemical Co., Inc., P.O. Box 341, West Lynn, Ma. 01905

Venturi Inc., (A Subsidiary of BissellInc.),1610 Rollins Rd.,
Burlingame, Calif. 94010
Voluntary Purchasing Groups, Inc., P.O. Box 460, Bonham, Texas 75418

Warren's Turf Nursery INc., 8400 W. 111th St., Palos Park, Ill.60464
Wilson & Geo. Meyer & Co., 270 Lawrence Ave., So. San Franscisco, Calif.

LIME REGISTRATION 1977

Agway Inc., Fert. Chemical Div., Box 1333, Syracuse, N.Y. 13201
American Pelletizing Corp., 7200 Hickman Rd., Box 3628, Des Moines, Iowa50322
The Conklin Limestone Co., Inc., RD #1, Lincoln, R.I. 02865
Goulet Trucking Inc., 27 S. Maple St., Hadley, Ma. 01035
Lee Lime Corp., Lee, Mass. 01238
Lime Products Corp., P.O. Box 357, Union, Maine 04862
LImestone Products Corp., 122 Main St., Newton, New Jersey 07860
Minerals Pigments & Metals Div., Pfizer Inc., 260 Columbia St.,
Adams, Mass. 01220
Vermarco Ground Products, Div. of Vermont Marble Company,
Mailing Address: P.O. Box 3, Florence, Vermont 06744

REPORT OF PROGRESS
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AGRICULTURAL EXPERIMENT STATION
ROOM 217 STOCKBRIDGE HALL
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A. A. SPIELMAN, DIRECTOR

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feed seed fertilizer REPORT 1978

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THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF FOOD AND AGRICULTURE
Frederic Winthrop, Jr., *Commissioner*

UNIVERSITY OF MASSACHUSETTS
AGRICULTURAL EXPERIMENT STATION
William J. Mellen, *Acting Director*

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF FOOD AND AGRICULTURE
BOSTON, MASSACHUSETTS

Frederic Winthrop, Jr., *Commissioner*
James M. Cassidy, *Control Official*

Summary Inspection REPORT of Official Samples on FEED, SEED, & FERTILIZER Fiscal Year 1978

UNIVERSITY OF MASSACHUSETTS
AGRICULTURAL EXPERIMENT STATION
WILLIAM J. MELLEN, ACTING DIRECTOR

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PREFACE

This publication consists of reports of the work assigned to the Massachusetts Agricultural Experiment Station by authority of the Feed Act (General Laws, Chapter 128, Sections 51 to 63 inclusive), the Seed Act (General Laws, Chapter 128, Sections 84 to 100 inclusive), and the Fertilizer and Liming Materials Act (General Laws, Chapter 128, Section 64 to 83 inclusive).

Included are Feed Report(Number 85) for the year 1978, General Material Report (Number 6)for the year 1978, Seed Laboratory Report (Number 51) for the year 1978, and the Fertilizer and Liming Materials Report (Number 105) for the year 1978.

For information concerning this report on the analyses of feeds, seeds, fertilizers, liming materials, and soils, and for information concerning certification of milk fat testing equipment and certification of operators of milk fat testing equipment, please write to:

Associate Professor in Charge
Feed, Seed, Fertilizer Laboratory
University of Massachusetts
West Experiment Station
Amherst, Massachusetts 01003

Regulatory Information:

Feed, Seed, Fertilizer Control Official: Registration of feed, fertilizer and liming products write to:

Control Official
Massachusetts Department of Food & Agriculture
100 Cambridge Street
Boston, Massachusetts 02202

Telephone: 617-727-3018

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INSPECTION OF COMMERCIAL FEEDSTUFFS

Report Number 85 For Fiscal
Year Ending 1978

by the Feed Laboratory Staff

of the Feed, Seed, and Fertilizer Laboratory

West Experiment Station, Amherst, Mass. 01003

UNIVERSITY OF MASSACHUSETTS
COLLEGE OF FOOD & NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION

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Janice M. Murphy, Senior Clerk and Stenographer
Muriel Scarborough, Junior Clerk and Stenographer

Brands Substantially Complying with Guarantee

Manufacturer & Brand	Number of Samples Analyzed
Agway Incorporated	
Agway Early Market Lamb Pellets	2
Agway Wheat Bran	4
Agway Calf Grower	2
Agway Milk Maker 16	3
Agway Pro Right 4500-20 For Cows	1
Feathered Friend Sunflower Seed	1
Agway Complete Breeder	1
Agway Complete Developer	1
Agway Super Fit & Fresh	2
Agway Trim	3
Agway Squealer Pellets	1
Agway Broiler Marketer	1
Agway Rough X-10	2
Agway Solvent Extracted Hominy Feed	2
Agway Ground Corn & Oats	1
Agway Mares & Foal	1
Agway Game & Turkey Starter	3
Agway 16% Pig Feed	7
Agway Pace Maker Starter	13
Agway Hog Super Concentrate	2
Agway 37% Hog Conc.	4
Agway Game & Turkey Grower	12
Agway Big Red Special Rabbit Pellets	7
Agway 14% Hog Feed	24
Agway Complete Horse Feed	3
Agway Game & Turkey Finisher	8
Agway Buxmont 40	2
Agway Complete Grower	10
Agway Layer 16	11
Agway Ratio-Right 500-16	19
Agway Ratio-Right 400-20	9
Agway Ratio-Right 600-15	2
Agway Milkmore 511-T	3
Agway Nu-Cashmaker	31
Agway Sow Feed	17
Agway Choice	13
Agway Bloom	1
Agway TCR II	8
Agway TCR I	14
Agway Nu-Cashmaker 15	2
Agway Inc. (Cont'd)	
Big Red Low Calorie Dog Food	1
Big Red Dog Food	1
Big Red High Energy Dog Food	1
Agway 47% Meat & Bone Meal	1
Agway Wheat Middlings	1
Respond 2000 Dog Food	1
Agway 17% Dehydrated Alfalfa Meal	1
Agway Crimped Oats with Molasses	2
Agway Solvent Extracted 48% Soybean Meal	5
Agway 40% Mixer for Ruminants	1
Agway Rough-X-9	1
Agway Crunchy 16%	2
Agway Fulpail 20%	2
Agway Champion	1
Agway Sho-Dev	1
Agway Broiler Finisher	1
Agway Turkey Starter	1
Allied Mills Inc.	
Wayne Puppy Food	1
Wayne Dog Food	2
B&M Farms & Millings Inc.	
Bay Mor 15% Mash	1
Barber & Bennett Inc.	
Fort Orange 16% Dairy Ration	1
Fort Orange Pig Starter Pellets	2
Fort Orange Soybean Meal	1
Fort Orange Game & Turkey Flyer	1
Fort Orange Fit & Feeding Ration	1
Fort Orange 40% Feeding Ration	1
Fort Orange All Mash Grower	2
Fort Orange Complete Rabbit Pellets	2
Fort Orange Pig & Hog Feed	5
Fort Orange 10% Automatic Egg Pellets	10
Fort Orange Chick Starter	1

Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Beacon Milling Company	
Beacon Hog Feed	4
Beacon Lacto Pels 16 ..	3
Beacon Classic Horse Feed	1
Beacon Egg Pellets	1
Beacon Excel 16	1
Be-Co Lay Mash	1
Bernardston Grain Company	
Excel Laying Mash	2
Starter & Grower	2
Excel 16% Dairy Ration.	2
Excel Horse Feed	2
Excel Fitting Ration ..	1
Carnation Co.,Milling Division	
Red Rose Double Duty Rabbit Pellets	2
Red Rose Egg Maker	3
Red Rose Scratch Grains	1
Red Rose Screened Cracked Corn	2
Red Rose Starter & Grower	1
Red Rose Oats	1
Red Rose Intermediate Chick Grower	1
Red Rose Big 40 Hog Supplement	1
Red Rose 16 Dairy Feed..	1
Red Rose Round Up	1
Red Rose Porkers	1
Central Soya Company	
48% Solvent Extracted Dehulled Soybean Meal	1
Chow Processing	
Lucky Pet Dog Food	1
Derby Feed Company	
Snow Bird Wild Bird Food	1
Farm Bureau Association	
Farm Bureau Dairy 16% ..	10
Farm Bureau Complete Producer Pellets	12
Farm Bureau Dairy 20%...	3
Farm Bureau Rabbit Food Pellets	7
Farm Bureau Assoc.(Cont'd)	
Farm Bureau Complete Developer	10
Farm Bureau Chick Starter Mash	4
Farm Bureau Turkey Grower	4
Farm Bureau 14% Pig Grower	10
Farm Bureau Pig Starter & Grower	5
Farm Bureau Turkey Finisher	4
Farm Bureau Complete Horsefare Pellets...	5
Farm Bureau Beef & Sheep	2
October Farm Sweet Feed	1
Farm Bureau Pacer Horse Feed	1
Farm Bureau Scratch Feed	1
Farm Bureau Dog Meal ...	1
Farm Bureau 24 Dairy Ration	1
Farm Bureau Turkey Developer	1
Farm Bureau Hog Supplement	1
Flory Milling Company	
Flory Rabbit Pellets	1
Flory Complete Horse Pellets	1
New Bedford 16 Dairy Pellets	1
Flory Hog Feed	1
G. D. Poultry Inc.	
P.P.G. 16% Layer Mash ..	1
Extra Sweet Horse Feed..	1
Pullet Starter Mash	1
Hog Feed	2
16% Fitting Ration	2
Super Pellets	1
Calf Grower	2
Coarse Super 16 Dairy ..	1
Horse Feed Pellets	2
Rabbit Pellets	2
14% Fitting Ration	2

Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
Kaytee Products Inc.	
Kaytee Parrot Mix.....	1
Land O'Lakes Inc.	
Land O'Lakes Lamb Milk Replacer	2
Maple Leaf Mills, Ltd.	
Rex Wheat Bran	2
Martin's Feed Mills Inc.	
Bench & Field Puppy Food	1
National Pet Food Corporation	
Sportmix High Protein Dog Food	1
Monitor Sugar Company	
Dried Beet Pulp	1
Montgomery-Bucks	
Rascal 30% Cat Food	1
October Farms	
12% Winter Sweets Complete Prancer Pellets	1
Ohio Blenders Inc.	
Big Ohio 17% Dehydrated Alfalfa Meal	1
Old Mother Hubbard Dog Food Company	
O.M.H. Hi-Protein Hi-Fat	2
O.M.H. Assorted Five Flavor Dog Food Biscuits ...	1
O.M.H. Kibbled Dog Meal	1
O.M.H. Small Channel Dog Bone Biscuit	1
O.M.H. Extra Large Dog Bone Biscuits	1
Ralston Purina Company	
Purina Layena 11	
Purina Commercial Hog-Finisher 7	
Purina Pig Growena	6
Ralston Purina Co. (Cont'd)	
Purina Pig Startena	5
Purina Guinea Pig Chow..	4
Purina Horse Chow	3
Purina Rabbit Chow	6
Purina Chick Growena ...	4
Purina Chick Startena ..	2
Purina Complete Sow Chow	2
Purina Trout Chow	2
Purina Turkey Marketer..	4
Purina Game Bird Maintenance Chow	3
Purina Turkey Growena...	3
Purina Turkey Finisher .	2
Purina Field & Farm Dog Meal	2
Purina Game Bird Flight Conditioner	2
Purina Game Bird Breeder Layena	2
Purina Chin Chow Checkers	1
Purina Rodent Laboratory Chow	1
Purina Pigeon Chow Checkers	1
Purina Mouse Chow	1
Purina Turkey Startena ..	1
Purina Checkerboard Dairy	1
Purina Formulab Chow ..	1
Purina Duck Growena ...	1
Purina Hog Supplement 40%	1
Purina Pig Starter and Grower Pellets	1
Purina Roaster Chow ...	1
Purina Stock Chow	1
Purina Game Bird Startena	1
Purina Horse Chow Checkers	1
Purina Fur Maker Mink Chow	1
Trexler Farms	
Dehydrated 14% Alfalfa Pellets	1
United Coop. Farmers Inc.	
UCF Turkey Starter A	1
UCF Layer 18	1
UCF Pride Complete Horse Feed	2
UCF Milkmaker 16	1

Brands Substantially Complying with Guarantees

Manufacturer & Brand	Number of Samples Analyzed
United Coop. Farmers Inc. (Cont'd)	
UCF 16% Profit Maker ..	1
UCF Sheep Pellets	1
UCF Hay Extender Pellets	1
UCF Corn Meal	1
UCF Turkey Grower	1
UCF Turkey Finisher	2
UCF 16 Dairy	2
UCF Soybean Meal	2
UCF Starter	3
UCF Rabbit Pellets	3
UCF Horse Feed	1
UCF Complete Horse Feed	1
UCF Layer 16	6
UCF Hog Feed	4
UCF Tizwhiz Complete Feed	2
UCF All Mash Grower	4
Ventura Grain Company, Inc.	
Every Day Hog Feed	1
Every Day Complete Layer	1
Every Day Turkey Finisher	1
Every Day 16 Dairy	1
Every Day Horse Feed	1
Every Day Chick Starter ..	1
Watatic Farm Supply Co.	
Wild Bird Feed.....	1
H.K. Webster Company	
Blue Seal Fat & Finish..	2
Blue Seal Scratch Feed ..	1
Blue Seal Breeder Pellets	1
Blue Seal Soybean Meal ..	2
Blue Seal Coarse Cracked Corn	1
Blue Seal Hi-Test 16 ...	2
Blue Seal Pacer	2
Blue Seal Roughage Extender	2
Blue Seal Natural 26	1
Blue Seal Provender	1
Blue Seal Balancer 36 ...	1
Blue Seal Charger	1
Blue Seal Coarse 16	2
Blue Seal Coarse 14	1
Blue Seal Energizer 16....	1
Blue Seal Trotter	11
H.K. Webster Co. (Cont'd)	
Blue Seal Milkmaker 16 ..	8
Blue Seal Milkmaker 20 ..	4
Blue Seal Canter	6
Blue Seal Piglets Crumbles	9
Blue Seal Pig & Sow Pellets	17
Blue Seal Pork Maker ...	11
Blue Seal Stride	4
Blue Seal Broiler Crumbles	3
Blue Seal Layer Crumbles	26
Blue Seal Grower Cal ...	17
Blue Seal Chick Starter.	5
Blue Seal Hatch Pels ...	15
Blue Seal Rabbit Pellets	15
Blue Seal Pace Horse Oats	2
Blue Seal Turkey Starter	5
Blue Seal Turkey Grower..	10
Blue Seal Fat & Finish ..	2
Blue Seal Song Maker	2

Brands Not Conforming to Guarantees

Manufacturer & Brand	Protein Guarantee	Protein Found
Agway Incorporated		
Agway Game & Turkey Finisher Pellets	16.0	15.0
Agway Game & Turkey Grower Bits	21.0	19.7
Agway 37% Hog Concentrate	37.0	35.7
Agway Topdress	33.33	31.7
Agway Buxmont 40	40.0	38.6
Agway Ratio-Right 400-20	20.0	18.6
Agway Squealer Pellets	18.0	16.7
Agway Rough X-9	9.0	6.7
Agway Game & Turkey Grower	21.0	19.3
Agway Champion	14.0	12.8
Farm Bureau Association		
Farm Bureau Hog Supplement	36.0	34.3
Farm Bureau 20 Dairy	20.0	16.3
Farm Bureau 20 Dairy	20.0	18.8
Farm Bureau 40 Dairy	40.0	37.6
G.D. Poultry Inc.		
P.D.G. Pullet Developer	14.0	12.8
Old Mother Hubbard Dog Food Company		
O.M.H. Kibbled Biscuits	24.0	21.9
Ralston Purina Company		
Purina Rabbit Chow Checkers	16.0	14.4
H.K. Webster Company		
Blue Seal Milk Maker 20	20.0	17.8
Blue Seal Canter	18.0	16.6
Blue Seal Fat & Finisher Pellets	18.0	15.5
Blue Seal Fat & Finisher Pellets	18.0	15.5
Blue Seal Chick Starter	20.0	17.2

Brands Containing Vitamins

Manufacturer & Brand	Vitamin	USP Units/lb. Guarantee	Found
Agway Inc.			
Agway Blue Label Milk Replacer	A	20,000	21,792
Agway Legumne Mineral Mix-Vitamins	A	150,000	149,760
Agway Fortimin Mineral Mix- Vitamins	A	150,000	157,324
Agway Blue Label Milk Replacer	A	20,000	18,877
Agway Red Label Milk Replacer	A	20,000	18,115
Barber & Bennet Inc.			
Fort Orange Pig Starter Pellets	A	4.500	49,034
Farm Bureau Association			
Farm Bureau Complete Horsefare Pellets	A	6,000	3,200**
Farm Bureau Complete Horse fare Pellets	A	6,000	3,600**
Farm Bureau Complete Horse fare Pellets	A	6,000	2,610**
Farm Bureau Dairy 16	A	6,000	2,610**
Farm Bureau Dairy 20	A	6,000	3,578**
Farm Bureau 40% Dairy	A	12,000	11,900
Martin's Feed Mills Inc.			
Martin's Bench & Field	A	26,000#	62,500 USP u/Kg

**Deficient
IU/kg.

Brands Containing Drugs

Manufacturer & Brand	Drug	Guaranteed	Found
Agway Incorporated			
Agway Complete Grower (B) Pellets	Amprolium	.004	.0044
Agway Complete Grower (B) Pellets	Amprolium	.004	.0037
Agway Pacemaker Starter (B)	Amprolium	.004	.0043
Agway Pacemaker Starter (B)	Amprolium	.004	.0043
Agway Pacemaker Starter (B)	Amprolium	.004	.0039
Agway Pacemaker Starter (B)	Amprolium	.004	.0036
Agway Pacemaker Starter (B)	Amprolium	.004	.0034
Agway Complete Grower..	Amprolium	.004	.0050
Agway Turkey Starter ..	Sulfaquinoxaline	.0175	.0140
Agway Blue Label Milk Replacer	Oxytetracycline	100 g/T	99 g/T
Barber & Bennet Incorporated			
Fort Orange Chick Starter	Zoalene	.010	.0118
Carnation Co., Milling Division			
Terramycin A/D Fortified Crumbles	Oxytetracycline	2 g/lb.	W.T.*
Farm Bureau Association			
Farm Bureau Hog Supplement	Bacitracin	25 g/T	19 g/T
Farm Bureau Turkey Developer	Amprolium	.0125	.0118
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	22 g/T
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	24 g/T
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	19 g/T
Farm Bureau Pig Starter & Grower	Bacitracin	25 g/T	18 g/T
Farm Bureau Turkey Grower Pellets	Amprolium	.0125	.0115
Farm Bureau Turkey Grower Pellets	Amprolium	.0125	.0100

*W.T.-Within Tolerance

Brands Containing Drugs (Cont'd)

Manufacturer & Brand	Drug	Guaranteed	Found
Farm Bureau Assoc. (Cont'd)			
Farm Bureau Chick Starter Mash	Amprolium	.005	.0046
Farm Bureau Chick Starter Mash	Amprolium	.005	.0042
Farm Bureau Complete Developer Mash	Amprolium	.005	.0040
Farm Bureau Complete Developer Mash	Amprolium	.005	.0046
Farm Bureau Complete Developer Mash	Amprolium	.005	.0053
Farm Bureau Complete Developer Mash	Amprolium	.005	.0050
Farm Bureau Chick Starter Mash	Amprolium	.005	.0043
Ralston Purina Company			
Purina Rabbit Chow Checkers	Sulfaquinoxaline	.025	.021
Purina Turkey Growena...	Amprolium	.0125	.0103
Purina Turkey Growena..	Amprolium	.0281	.0160**
Purina Chick Startena .	Zoalene	.0083	.0093
Purina Chick Growena ..	Furazolidone	.011	.0110
	Chlortetracycline	100 g/T	90 g/T
United Coop. Farmers Inc.			
UCF All Mash Grower	Amprolium	.004	.0049
UCF All Mash Grower	Amprolium	.004	.0046
UCF Starter	Amprolium	.008	.0067
UCF Starter	Amprolium	.008	.0067
UCF Turkey Starter	Amprolium	.0125	.0132
H.K. Webster Company			
Blue Seal Turkey Grower	Nitarsone	.01875	.0198
Blue Seal Turkey Grower	Nitarsone	.01875	.0244
Blue Seal Turkey Grower	Nitarsone	.01875	.0290
Blue Seal Turkey Grower	Nitarsone	.01875	.0307
Blue Seal Hutch Pels ...	Sulfaquinoxaline	.025	.023
Blue Seal Hutch Pels ...	Sulfaquinoxaline	.025	.015**
Blue Seal Hutch Pels....	Sulfaquinoxaline	.025	.020
Blue Seal Hutch Pels....	Sulfaquinoxaline	.025	.020
Blue Seal Hutch Pels....	Sulfaquinoxaline	.025	.022
Blue Seal Turkey Starter	Amprolium	.0125	.0103
Blue Seal Turkey Starter	Amprolium	.0125	.0105
Blue Seal Turkey Starter	Amprolium	.0125	.0103
Blue Seal Turkey Starter	Amprolium	.0125	.0120
Blue Seal Chick Starter	Amprolium	.0125	.0068**

**Deficient

Brands Containing Drugs (Cont'd)

Manufacturer & Brand	Drug	Guaranteed	Found
H.K. Webster Co. (Cont'd)			
Blue Seal Chick Starter	Amprolium	.0125	.0103
Blue Seal Chick Starter	Amprolium	.0125	.0138
Blue Seal Chick Starter	Amprolium	.0125	.0113
Blue Seal Chick Starter	Amprolium	.0125	.0103
Blue Seal Chick Starter	Amprolium	.0125	.0148
Blue Seal Grower Cal...	Amprolium	.00625	.0083
Blue Seal Grower Cal...	Amprolium	.00625	.0058
Blue Seal Grower Cal...	Amprolium	.00625	.0061
Blue Seal Broiler Crumbles	Amprolium	.0125	.0115
Blue Seal Broiler Crumbles	Amprolium	.0125	.0105
Blue Seal Broiler Crumbles	Amprolium	.0125	.0128
Blue Seal Piglets Crumbles	Bacitracin	100 g/T	100 g/T
Blue Seal Piglets Crumbles	Bacitracin	100 g/T	100 g/T
Blue Seal Piglets Crumbles	Bacitracin	100 g/T	122 g/T
Blue Seal Piglets Crumbles	Bacitracin	100 g/T	122 g/T
Blue Seal Piglets Crumbles	Bacitracin	100 g/T	82 g/T
Blue Seal Piglets Crumbles	Bacitracin	100 g/T	117 g/T
Blue Seal Piglets Crumbles	Bacitracin	100 g/T	82 g/T
Blue Seal Piglets Crumbles	Bacitracin	100 g/T	113 g/T

*W.T.-Within Tolerance
**Deficient

FEED REGISTRATIONS
AS OF Dec. 1978

Abbott Laboratories, Chem. & Agric. Division, 1400 Sheridan Rd.,No.Chicago,IL 60064
Acme Evans Co., Div. Grain Inc., 902 W. Washington Ave.,Indianapolis, IN 46204
ADM Processing Co., A Div. Archer-Daniels-Midland Co.,P.O. Box 1470, Decatur, IL 62525
Agro-K Corporation, 6120 Earle Brown Dr., Suite 112, Minneapolis, MN 35430
Agway Inc., Box 4933, Syracuse, New York 13321
Allen Products Co., Inc., P.O. Box 2187, RD#3, Allentown, Pa. 18001
Allied Chemical Corp., P.O. Box 2120, Houston, TX 77001
Allied Foods Inc., Household Products Co., 1450 Hills Place, NW, Atlanta, GA 30318
Allied Foods Inc., Hy-Top Products, A Div. of Federated Foods Inc., 1450 Hills Place, N.W., Atlanta, GA 30318
Allied Foods Inc., National Brands Sales, A Div. of Federated Foods Inc., 1450 Hills Place, N.W., Atlanta, GA 30318
Allied Foods Inc., Red & White International, A Div. of Federated Foods Inc., 1450 Hills Place, N.W., Atlanta, GA 30318
Allied Mills Inc., Chicago, IL 60606
American Cyanamid Company, P.O. Box 400, Princeton, NJ 08540
American Hoechst Corporation, Agric. Divison, JW McClain, Rt. 202-206, Somerville,NJ
American Maize Products Co., 11367 Indianapolis Blvd., Hammond, IND 46326
Amway Corporation, 7575 E. Fulton Rd., Ada, Michigan
The Andersons, P.O. Box 119, Maumee, Ohio 43540
Anheuser-Busch Inc., 721 Pestalozzi St.,St. Louis, MO 63118
Animal Nutrition Inc., 6608 W. Main St., Belleville, IL 62223
Anitox Corporation, P.O. Box 3891, Corpus Christi, TX 78404
Arlington Grain Co., 5 Depot Ave., Cranston, RI 02920
A&P Pet Food Co., Inc., 91 Holt St., Buffalo, NY 14206
Archer-Daniels-Midland Co., P.O. Box 1470, Decatur, IL 62525
Atlantic Feed Products Corp., 286 Secaucus Rd, Secaucus, NJ 07094
A&P Tea Co., Fruitridge Ave. & Locust St., Terre Haute, IN 47808

HJ Baker & Bros., Inc., Agents for Connors Bros. Ltd., Blacks Harbour, NB, Canada 360 Lexington Ave., New York, NY 10017
Barber & Bennett Inc., Box 430, Port of Albany, NY 12201
Barzen of Minneapolis, Inc., P.O. Box 1123, Minneapolis, MN 55440
Bay State Milling Co., 707 Grain Exchange , Minneapolis, MN 55415
Bayvet Division Cutter Laboratories Inc., P.O. Box 390, Shawnee Mission, Kansas 66201
The Beacon Milling Co., Inc., Cayuga, NY 13034
Beechan Inc., 65 Industrial South, Clifton, NJ 07012
Bernardston Grain Co., Inc., Bernardston, Ma. 01337
Best Feeds & Farm Supplies Inc., Box J, Oakdale, PA 15071
Bio-Nu Laboratories Inc., 1135 Kane Concoursem, Bay Harbor Island, FL 33154
James F. Brown Co., of Worcester, Inc., 310 Franklin St., Worcester, Ma.
Brown-Forman Distillers Corp., P.O. Box 1080, Loudisville, KY 40201
Bordo Citrus Products Corp., 650 Avenue R, S. W.,Winter Haven , FL 33880
Bruckmann's, 179 (rear) So. Broadway, Lawrence, Ma. 01843
Bumble Bee Seafoods, A Div. of Castle & Coke Inc., P.O. Box 60, Astoria, GA 97103

Cadillac Pet Foods Inc., 9130 Mohican Trail, Pennsauken, New Jersey 08110
Calo Pet Foods, Div. of Borden Inc., P.O. Box 388, Allentown, PA 18105
Cargill Inc., (Processing Group), P.O. Box 9300, Minneapolis, MN 55440
Carnation Company, 5045 Wilshire Blvd., Los Angeles, CA 90036

FEED REGISTRATIONS

Capri Company, Agric. De Puerto Rico, Inc., Manati, Puerto Rico 00701
Return to: Mr. R. P. Mooney, American Cyanamid Co., P.O. Box 400, Princeton, NJ
Central Conn. Corp., 10 Apel Place, Manchester, CT 06040
Central Soya, 1300 Fort Wayne Bank Bldg., Fort Wayne, IN 46802
Champion Valley Farms, Inc., P.O. Box 391, Camden, NJ 08101
Chelsea Milling Co., North Street, Chelsea, MI 48118
Char-Bone Corporation, P.O. Box 536, Manhasset, NY 11030
Clinton Corn Processing Co., P.O. Box 340, Clinton, Iowa 52732
Colorado Feeds Inc., RT 1, Box 17, McClave, Colorado 81057
ConAgra Inc., Grain Millied Invoicing, 200 Kiewit Plaza, Omaha, NE 68131
The Coca-Cola Co., Foods Division, P.O. Box 2079, Houston, TX 77001
Corenco Corp., 525 Woburn St., Tewksbury, Ma. 01876
Continental Grain Co., Processing Div., 277 Park Ave., New York, NY 10017
Compass Foods Inc., c/o Perk Foods, 1580 N. Nowat Highway, Park Ridge, IL
Corn Products, Unit of CPC International Inc., International Plaza, Feed Products, Englewood Cliffs , New Jersey 07632
Corn Sweetners, A Div. of Archer-Daniels-Midland Co., P.O. Box 1470, Decatur, IL 62525

Dahlgreen & Co., Div. of Beatrice Foods Co., 1220 Sunflower St., Crookston, MN 56716
The Jim Dandy Co., P.O. Box 10687, Birmingham, AL 35202
Dawe's Laboratories, Inc., 450 State St., Chicago Heights, IL 60411
Demoulas Supermarket, Inc., Tewksbury,Ma., c/o Doane Products Co., P.O. Box 879, Joplin, MO 64801
Deep Run Packing Co., Inc., Deep Run Rd., Dublin, Pa. 18917
Delta Pet Products, 600 South Fourth St., Harrison, NJ 07029
Derby Feed Co., 4-8 Caroline St., Derby, CT
Diagnostic Data Inc., 513 Logue Ave., Mountain View, CA 94043
Docktor's Laboratories Inc., Dundee Park, Andover, Ma.
Dog Life Packing Co., by Hi-Life Packing, P.O. Box 218, Route M40, Hamilton, MI 49419
Doyle Products Co., 15 Court St., Boston, Ma. 02108
The Dow Chemical Co., 2030 Dow Center, Midland, MI 48640
E.I. duPont deNemours & Co., Attn: M. B. Lore, Legal Dept., 7045 DuPont Bldg., Wilmington, DE 19898
C.B. Dolge Co., *11 Ferry Lane* West,Westport, CT 06880

Elanco Products Co., A Div. of Eli Lilly & Co., P.O. Box 1750, Indianapolis IN 4620
Eastern Animal Foods, Rt. 5, Box 18, Berlin, MO 21811
Eastman Gelatin Corp., 277 Washington St., Peabody, Ma. 01960
Eight in One Products Inc., 100 Emjay Blvd., Brentwood, NY 11717
Evanger's Dog & Cat Food Co., 221 Wheeling Rd., Wheeling, IL 60090
Evans Milling Co., Inc., 1730 West Michigan St.,Indianapolis, IN 46223
John Ewing Co., 401 N. First St., LaSalle, CO 80645

Farm Bureau Coop. Assn., Inc., 158 Lexington St., Waltham, Ma.
Farmers Feed Co., 278 Plandome Rd., Manhasset, NY 11030
Fast Fractions for Purses Inc., 9 Burnap Rd., Windsor Locks, CT 06096
Flory Milling Co., North Main St., Bangor, PA 18013
Fox Pet Foods Inc., RR Blvd., Newfield, NH 08344
The R. T. French Co., One Mustard St., Rochester, NY 14609

The J. I. Gates Milling Co., 1137 W.Broad St., P.O. Box 23180, Columbus, OH 43223
G.D. Poultry Inc., 68 Cambridge St., Middleboro, Ma. 02346
Geisler Pet Products Inc., 3902 Leavenworth St., Omaha, NE 68105

FEED REGISTRATIONS

General Foods Corp., 250 North St., White Plains, New York 10625
General Foods Corp., Beverages & Breakfast Foods Div., 275 Cliff St., Battle Creek, Michigan 49016
General Mills Inc., P.O. Box 15003, Minneapolis, MN 55415
Genstar Chemical Ltd., 1255 University St., Suite 1420, Montreal, Quebec, H3B3x1
Roy Goff & Co., Inc., P.O. Box 6248, Bridgeport, CT 06606
Great Northern Feeds Inc., 909 E. Elizabeth St., Detroit, MI 48226
The Great A&P Tea Company, for Hi-Life Packing Co., P.O. Box 218, Route M-40, Hamilton, MI 49419
The Great A&P Tea Co., c/o Perk Foods Co., Inc., 1580 N. Northwest Highway, Park Ridge, IL

Hap-EE Pet Food Co., 150 Reservoir Rd., Wollaston,MA 02170
Rolf C. Hagen (USA) Corp., 360 Forbes Blvd., Mansfield, Ma 02048
The Hartz Mountain Pet Food Corp., 700 So. Fourt St., Harrison, NJ 07029
Hi-Life Packing Co., P.O. Box 218, Hamilton, MI 49419
Hoffman La Roche Inc., 340 Kingsland St., Bldg. 706, Nutley, NJ 07110
HP Hood Inc., 500 Rutherford Ave., Boston, Ma. 02129
The Hubinger Co., 601 Main St., Keokuk, IA 52632

Illinois Cereal Mills Inc., 620 S. Jefferson, Paris, IL 61944
IMC Chemical Group Inc., 1331 So. 1st, P.O. Box 207, Terre Haute, IN 47808
Impro Products Inc., 3 Allamakee St., Waukon, IA 52172
Industrial Chemical Group, FMC Corporation, 2000 Market St., Philadelphia, PA
International Bakerage, 3300 Northeast Expressway, Suite 1-M, Atlanta, GA
International Multifoods Corp., 1200Multifoods Bldg., Minneapolis, MN 55402
International Minerals & Chemical Corp., 421 E. Hawley St., Mundelein, IL 60061
International Salt Co., Clarks Summit, Pa. 18411
International Stock Food Corp., P.O. Box 29, 533 Broad St., Waverly, NY 14892

Jewel Corp., Inc., Melrose Park, IL 60160 c/o Doane Products Co., Joplin, MO
J.S. Joseph Co., Inc., c/o Michigan Sugar Co.--Saginaw, Michigan, 777 Grain Exchange Bldg., Minneapolis, MN 55415
Jerky Treats Inc., 4707 Fred Wilson Rd., El Paso, TX 79904

Kal Kan Foods Inc., 3386 E. 44th St., Vernon, CA 90058
K&L Feed Mill Corp., Box 52, Rt. 32, Franklin, CT 06254
Key Milling Co., Inc., P.O. Box 116, Clay Center, Kansas 67432
Keystone Dehydrators, RD #2, Box 127, Bethlehem, PA 18017
H.C. Knoke Div. Minnesota Grain Pearling, 5728 W. Roosevelt Rd., Chicago, IL 60650
Kordon Corp., 2242 David Ct., Hayward, CA 94545
Krause Milling Co., P.O. Box 1156, Milwaukee,WI 43201

LaCrosse Milling Co, Div. of Ward Foods Inc., P.O.Drawer J, Cochrane, WI 54662
Lambert Kay, Div. Carter-Wallace Inc., P.O. Box 418, Half Acre Rd., Cranbury, NJ
Land O'Lakes Inc., Agric. Services, Fort Dodge , Iowa 50501
Lauhoff Grain Co., Danville, IL
L.F. Pet Foods Co., 914 Agatha St., Los Angeles, CA 90021
Lipman Marine Products Co., P.O.Box 779, Gloucester, MA 01930
Liv-A-Snaps Inc., P.O. Box 3490, St. Paul, MN 55165
Loft-Kellogg Seed Inc., 322 E. Florida St., Milwaukee,WI 53204
Longlife Aquarium Products, 600 So. Fourt St., Harrison, NJ 07209
Lykes Pasco Packing Co., P.O. Box 97, Dade City, FL 33525

FEED REGISTRATIONS

Martin Marietta Chemicals, Refractories Div. Executive Plaza II, Hunt Valley, Maryland 21030
Massachusetts Canning Corp., Rt. 44, Harding St., Lakeville, Ma. 02346
Maple Leaf Mills Co., Ltd., Export Flour Div., Queens Quay, Toronto, Ontario Canada
Mavar Shrimp & Oyster Co., Ltd., P.O. Box Drawer 208, Biloxi, Mississippi 39533
The Mearl Corp., Broad Cove Rd., Eastport, Maine 04631
The Mennel Milling Co., P.O. Box 806, Fostoria, OH 44830
Merck & Company, Inc., R.R. Buck, P.O. Box 2000, Rahway, NJ 07065
Merrimack Farmers' Exchange Inc., P.O. Box 470, Concord, NH 03301
Metaframe Corp., 41 Slater Dr., Elmwood Park, New Jersey 07407
Milk Specialties Co., P.O. Box 278, Dundee, IL 60118
Minerals, Pigments, & Metals Div., Pfizer Inc., 260 Columbia St., Adams, Ma. 01220
Miller-Morton Co., 1211 Sherwood Ave., Richmond, VA 23220
Morton Salt Co., 110 N. Wacker Dr., Chicago, IL 60606
Mowat, Wilson & Co., Box 5171, Seven Oaks Station, Detroit, Michigan 48235

Nabisco Inc., River Rd., E. Hanover, New Jersey 07936
Nabisco Inc., Toledo Flour Mill, 2221 Front St., Toledo, Ohio 43605
Namolco Liquid Supplements; Div. of National Molasses Co., Willow Grove, Pa. 19090
National Alfalfa Dehydrating & Milling Co., 4800 Main St., Kansas City, MI 64112
National Feeds of New England, P.O. Box 791, Merrimack, NH 03054
National Pet Food Corp., P.O. Box 788, 6700 Cherry Ave., Long Beach, CA 90801
National Pet Food Corp., Wells Division, 617 South D St., Monmouth, IL 61462
New England Fish Company, Pier 89, Seattle, WA 98119
Northern Ohio Sugar Co., Attn: Special Products Div., P.O. Box 5308, Denver, CO 80217

Oasis Pet Products, A Div. of ATCO Manu., Inc., P.O. Box 2580, 461 Walnut St., Napa, California 94558
Old Fox Chemical Inc., 66 Valley St., E. Providence, Rhode Island 02914
Old Mother Hubbard Dog Food Co., Inc., P.O. Box 1411, 80 Rogers St., Lowell, Ma. 01853
Orleans Packing Co., for Hi-Life Packing Co., P.O. Box 218, Rt. M-4, Hamilton, MI 49419
Oyster Shell Products Div. of Radcliff Materials Inc., P.O. Box 1225, Mobile, AL 36601

Pacific Molasses Co., One California St., San Francisco, CA 94111
Paterson Tallow Co., Inc., P.O. Box 287, Jersey City, NJ 07303
Pecos Feed Yard, Inc., P.O. Box 1712, Pecos, TX 79772
Pecos Agric. Corp., P.O. Box 1824, Pecos, TX 79772
Perk Food Company, Inc., 1580 N. Northwest Highway, Park Ridge, IL 60068
Peavey Co., Industrial Foods Group, 730 Second Ave., So. Minneapolis, MN 55402
Pet Kitchens Calm Dinner for Cats, 215 High St., Seaford, Delaware 19973
The Pillsbury Co., Mail Station M338, 608 Second Ave., S. Minneapolis, MN 55402
Pittsburgh Brewing Co., 3340 Liberty Ave., Pittsburgh, PA 15201
Provimi Inc., 99 Bartley Rd., Flanders, NJ 07836
Pioneer Hi-Bred International Inc., 1206 Mulberry St., Des Moines, IO 50308

The Quaker Oats Co., Merchandise Mart Plaza, Chicago, IL 60654

Rachelle Laboratories Inc., 700 Henry Ford Ave., Long Beach, CA 90801
Ralco Products Inc., 1600 Hahn Rd., Marshall, MN 56258
Ralston Purina Co., Checkerboard Square, St. Louis, MO 63188
The Reward Co., Inc., P.O.Box 12548, El Paso, Texas 79912
Rhodia Inc., Hess & Clark Division, 7th & Orange St., Ashland, Ohio 44805
Rivianna Foods Div. of Hill's, 401 Harrison, P.O. Box 148, Topeka, Kansas 66601
Rytman Grain Co., Inc., RFD #1, Lebanon, CT 06249

FEED REGISTRATIONS

O.M. Scott & Sons, Co., Marysville, Ohio 43040
Sears, Robuck & Co., Sears Tower, Chicago, IL 60684
Schenley Distillers Inc., 36 E. Fourth St., Cincinnati, Ohio 45202
Seaboard Allied Milling Corp., 1550 West 29th St., Kansas City, MO 64108
Simonsen Mills Inc., Box 157, Quinby, Iowa 51049
Sea Corporation, Commonwealth Pier, Boston, Ma. 02210
Jos. E. Seagram & Sons, Inc., 508 W. High St., Lawrenceburg, Indiana 47025
Shafer Seed Co., Oakes, North Dakota 58474
Shell Chemical Co., A Div. of Shell Oil Co., P.O. Box 3871, Houston, TX 77001
J. R. Short Milling Co., P.O. Box 866, Kankakee, IL 60901
Smith-Douglas,Div. of Borden Chemical, Borden Inc., P.O. Box 419, Norfolk, VA 23501
Smith-Kline Animal Health Products, Div. of Smith Kline Corp., 1500 Spring Garden, Street, Philadelphia, Pa. 19101
The Southern Cotton Oil Co., Inc., P.O. Box 24219, New Orleans, LA 70184
Southern of Darlington Co., 383 Washington St., Darlington, SC 29532
Sunflowers Inc., Grandin, North Dakota 58038
Southern Fruit Distributors Inc., P.O. Box 8367, Orlando, FL 32806
Southern of Rocky Mount, Inc., P.O. Box 109, 600 Wilkinson St., Rocky Mt., NC 27801
Spencer Kellogg Div. of Textron Inc., 120 Delaware Ave., Buffalo, NY 14240
Staff Supermarkets Assoc., Inc., Jericho, New York 11753 c/o Doane Products Co., P.O. Box 939, Joplin, MO 64801
Staff Supermarkets Assoc., Inc., by Barzen of Minneapolis, Inc., P.O. Box 1123, Minneapolis, MN 55440
Staff Supermarkets Assoc., Inc., 333 Jericho Turnpike, Jericho, NY 11753
A.E. Staley Mfg. Co., 2200 E. Eldorado St., Decatur, IL 62525
Standard Brands Inc., 625 Madison Ave., New York, NY 10022
Stanford Seed Co., P.O. Box 366, 560 Fulton St., Buffalo, NY 14240
Star Kist Foods Inc., Terminal Island, California 90731
Star Markets, A Div. of Jewel Co., Inc., Cambridge, MA 02138
Standard Milling Co., 1009 Central, Kansas City, MO 64105
F.W. Stock & Sons, Div. of DCA Food Inudstries Inc., 101 E. Bacon St., Hillsdale, MI 49242
Stop & Shop Inc., c/o Perk Foods Co., Inc., 1580 North Northwest Highway, Park Ridge, Illinois
Strongheart Products Inc., P.O. Box 2009, Kansas City, Kansas 66110
Sun Harbour Industries, 1995 Bay Front Street,
Sunshine Feed Mills Inc., P.O. Box Drawer S, Red Bay, AL 35582
Superior Pet Products, 470 Atlantic Avenue, Boston, Ma. 02201

Tetra Sales, 360 Forbes Blvd., Mansfield, Ma. 02043
TransAgra Corp., 1355 Lynnfield Rd., Suite 261, Memphis, TN 38138
Tri-Mutual Inc., 509 N. 4th St., Minneapolis, MN 55401
Triumph Pet Industries Inc., P.O. Box 100, Hillburn, NY 10931

Universal Grain Co. of New Jersey, 425 South St., Newark, New Jersey 07105
United Coop. Farmers Inc., 339 Broad St., Fitchburg, Ma. 01420

Vital Nutrition Products Inc., 520 Livingston St., Norwood, NJ 07648

Wakefern Food Corp., 600 York St., Elizabeth, New York 07207
Watkins Salt Co., 518 E. Fourth St., Watkins Glend, NY 14891
Watatic Farm Supply, 1 Gardner Rd., So. Ashburnham, Ma. 01466
Wardley Products Co., Inc., One Aquarium Drive, Secaucus, NJ 07094
HK Webster Co., Inc., P.O. Box 8, Lawrence, Ma. 01842
Wilson's Corn Products Inc., Rochester, Indiana 46975
WMB Corp., P.O. Box 5202, Pasadena, CA 91107

General Materials Samples and Soils

Samples sent and brought in by farmers, the extension service, industry representatives, and the consumer and the different departments in the University, excluding soil samples, are classified as GENERAL MATERIALS Samples.

During the 1978-79 season, the laboratory analyzed a large number of those types of samples which are indicated in the following table.

Type of General Materials Sample	Number Analyzed
Hay	160
Corn Silage	101
Grass Silage (Haylage)	194
Miscellaneous Samples for Toxicological Analyses Including Pesticide Residues, Heavy Metals, and Drug Analyses	119
Mixed Feeds and Ingredients	363
Fertilizers	59
Plant Leaves	67
Manures	28
Wax Samples	15
	1,106 TOTAL

The number of materials analyzed for pesticide residues, heavy metals, and drugsare indicative of the use of the Feed, Seed & Fertilizer Laboratory as an analytical resource by the University and the general public when problems develop.

The large amount of mixed feed, feed ingredients, and forages analyzed represent the analytical services to farmers, the consumer, and the agricultural industry in Massachusetts, including the University and the Extension Service.

The number of soil samples that are analyzed for backyard gardeners, greenhouses, farmers, and miscellaneous sources number about 3500 for this season.

SEED LABORATORY REPORT NO. 51
FOR 1978 (FISCAL YEAR)

By the Seed Laboratory Staff of the
Feed, Seed, Fertilizer Laboratory

West Experiment Station
Amherst, Massachusetts

UNIVERSITY OF MASSACHUSETTS
COLLEGE OF FOOD AND NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION

Wm. J. Mellen, Acting Director

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Muriel M. Scarborough, Junior Clerk and Stenographer
Toni Jean Fitzgerald, Departmental Assistant

STATE SEED INSPECTORS:

James M. Cassidy, Chief Market Investigator
Daniel J. Burns
Charles A. Batts
George M. Porter
Earl H. Goodrich

SUMMARY OF YEAR'S WORK

Although the Seed Laboratory engages in some work other than the testing of seeds, its activity can be expressed to some extent by the number of seed samples tested. From the period between July 1, 1977, and June 30, 1978, 1233 samples were received and 1911 various tests were made.

POINTS FOR INVESTIGATION

Seeds which are to be sold in Massachusetts for seeding purposes must meet all the requirements of the Seed Act. (See Chapter 128 of the General Laws amended by Chapter 203 of the Act of 1978 . The points of the law for which the Seed Laboratory could test seeds for compliance during the 1977-1978 season are summarized below. These points were used as bases for the investigation.

A. All Seeds:

1. Must be labeled to show: conspicuously and plainly the commonly accepted name of kind, variety, and treatment* if any, name and address of labeler or vendor, and number of Restricted Noxious Weed Seeds** per pound if any, under the heading "Restricted Noxious Weed Seeds" or "Noxious Weed Seeds".

2. Must not: have any false or misleading label or advertising; nor be represented as Certified seed, Registered seed, Foundation seed or Hybrid seed unless they meet the requirements; nor contain any Prohibited Noxious Weed Seeds#; nor contain more Restricted** Noxious Weeds per pound than claimed; nor contain more than one percent total Weed Seeds##; nor germinate less than two thirds the recognized standard (making a lot UNFIT FOR SEEDING PURPOSES): nor be offered for sale more than nine months after the latest germination test.

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* For required treatment statement see page 19.

**The Restricted Noxious Weeds are: dodder (Cuscuta spp.) horsenettle (Solanum carolinense), wild mustards including India mustard (Brassica juncea), charlock (B. kaber) and black mustard (B. nigra) wild garlic and wild onion (Allium spp.), perennial sowthistle (Sonchus arvensis), corncockle (Agrostemma githago), buckhorn plantain (Plantago lanceolata), wild radish (Raphanus raphanistrum), bedstraw (Galium spp.) and annual bluegrass (Poa annua).

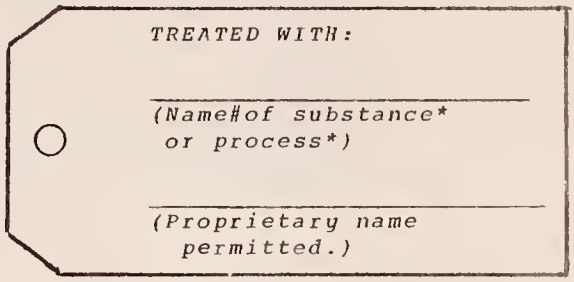
The Prohibited Noxious Weeds are: Canada thistle (Cirsium arvense), field bindweed (Convolvulus arvensis), and quack grass (Agroypyron repens).

Besides the plants commonly recognized as weeds, black medick (Medicago lupulina), suckling clover (Trifolium dubium) and large hop clover (Trifolium campestre) are also classed as weeds.

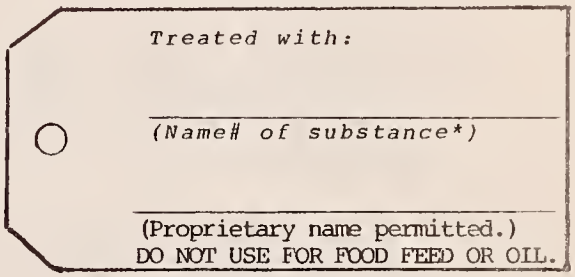
3. *If seed has been treated with a substance* or process*, a treatment statement must appear in type no smaller than 8 point on the container, tag, or on a separate tag as indicated below:*

TREATMENT WITH SUBSTANCE OR PROCESS*:* *RESTRICTED LABEL OR STATEMENT:*

1. *Amount remaining on seed not harmful to vertebrates, neither mercurials nor similarly toxic chemicals, on seed quantities of 4 ounces or less, or the following chemicals on seed quantities of any size, in concentrations less than indicated:*
   allethrin- 2 parts per million,
   malathion- 8 p.p.m.
   methoxychlor- 2 p.p.m.
   piperonyl butoxide-
   on oat and sorghum- 8 p.p.m.,
   on all other seed- 20 p.p.m.,
   pyrethrins-
   on oat and sorghum- 1 p.p.m.,
   on all other seed- 3 p.p.m.

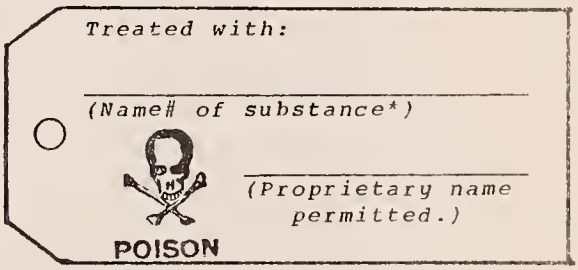


2. *Amount remaining on seed harmful to vertebrates, neither mercurials nor similarly toxic substances but on seeds in larger quantities or in concentrations higher than indicated above.*



3. *Mercurials or similarly toxic substances## if any amount remains on seed; including the following:*

Demeton	*Heptachlor*
Diazinon	*Parathion*
Disulfoton	*Phorate*
Ethion	*Toxaphene*
Fenaminosulf	*All mercurials*



Designed to protect the seed or ameliorate development of seedling.
The name of the substances must be commonly accepted and must be either the coined name, chemical (generic) name or the abbreviated chemical name. It must not be a proprietary or trade name.
**The skull and crossbones must be at least twice the size of 8 point type and the word "POISON" must be in red letters.*
#These substances were classed as mercurials or similarly toxic substance under the Federal Seed Act, September 1977.

C. *Agricultural and Lawn Seed:*

1. *Must be labeled to show: commonly accepted variety* name, or the statement Variety Unknown if it is unknown; Origin in the case of alfalfa, red clover, white clover and field corn (except hybrid corn) or Origin Unknown if it is unknown; Lot number; the percentage Germination and percentage Hard Seed, if any, with the month and year of germination test; and the percentage by weight of each Pure Seed component by name in excess of 5 percent of the whole**, in order of its predominance#; the percentage by weight also of Weed Seed, Inert Material and Other Crop seed; and the term Mixture if more than one pure seed component is named#.*

2. *Must neither be labeled with the term "trace" for any required percentage, nor contain more than 20 percent inert matter.*

D. *Vegetable and Herb Seeds:*

1. *Must be labeled to show: for peas, beans and sweet corn in packages of more than one pound and others in packages of more than 1/4 pound, the Lot Number, percentage Germination and percentage Hard Seed if any, and the month and year of Germination test; for seeds in smaller sized containers than the above, the date of Germination test or calendar year for which packaged; if the Germination plus Hard Seed is below the adopted standard, the germination plus hard seed, if any, the month & year of test and the term Below Standard i type no smaller than eight point.*

E. *Flower Seeds:*

1. *Must be labeled to show: the kind and variety name or a stateme of performance characteristics; that it is a mixture of kinds and varieties, if so; whether the plants produced will be annual, biennial or perennial if there could be any doubt; for seed in containing larger than those for home flower gardens, the Lot number, and if standard testing procedures have been adopted, the percentage Germination and Hard Seed if any, and the month and year of Germination test; for seeds in containers of the size for home flower gardens, the date of Germination test or calendar year for which the seed is packaged; and for any size package, if the percentage Germination plus Hard Seed is below the adopted standard, the percentage Germination plus Hard Seed if any, the month and year of test, and the term Belo Standard in type no smaller than eight point.*

2. *Must neither contain more than 25% by count of one kind in a mixture of kinds unless the kind names and appropriate percentag of each are declared nor potentially produce 60% or more plants bearing one color flowers when labeled to produce four or more colors of one kind, unless the approximate percentage of each is indicated.*

**See Rules and Regulations, paragraph 12, for list of kinds requirin variety names. The words 'cultivar' and 'variety' are synonymous.*
***See Rules and Regulations, paragraph 6, for exceptions to the 5% ru*
#See Rules and Regulations, paragraph 10, for mixture components.

E. Flower Seeds (Continued):

3. A mixture of kinds of flower seeds will be considered to be below standard if the germination of any kind or combination of kinds constituting 25 percent or more of the mixture by number is below standard for the kind or kinds involved.

F. Tree and Shrub Seed in Containers of Quarter Pound or More:

1. Must be labeled to show: percentage by weight of Pure Seed; the Year of Collection; the locality and elevation where grown or a statement that these are unknown; percentage of germination and date of test if a standard method of germination has been adopted.

G. Additional requirements for seeds in preplanted containers, mats, or tapes:

1. Must be labeled to show: the minimum number of seeds per square foot for agricultural seeds; the minimum number of seeds in the container for other seeds.

PREVIEW OF OFFICIAL TESTS

The official seed samples which represent a cross section of all seeds sold for seeding purposes in Massachusetts were collected, tested, and analyzed in accordance with the provisions of Sections 84-100 of the Seed Act, General Laws Chapter 128. Most of the samples were found to be labeled properly and truthfully, but some were found to be mislabeled or otherwise in variation with the law.

Table I gives the number and types of tests made during the year.

TABLE 1 SEED SAMPLES FOR INSPECTION YEAR 1977-78

Kind of Seed Sampled	No. Rec'd.	Number of Analyses Scheduled			
		Germi-nation	Purity	Nox. weed	Other*
Official Samples					
Agricultural	62	60	60	60	9 (F)
Agric. Mixtures (317 components)	86	243	85	85	62 (F)
Vegetable & Herbs	474	474	-	-	-
Veg. Mixtures (6 components)	3	6	-	-	-
Flowers	206	206	-	-	-
Flower Mixtures (51 components)	4	7	-	-	-
Total Official	835	996	145	145	71
Service and Experimental					
Agricultural	144	143	25	24	6
Agric. Mixtures (95 components)	32	90	4	1	-
			-	-	
Vegetables	208	208	-	-	36
Flowers	8	7	-	-	2
Trees and Shrubs	2	2	-	-	2
Other (weeds & unident.)	4	-	-	-	4
Total Service & Exp.	398	450	29	25	50
TOTAL OF ALL SAMPLES	1233	1446 +	174 +	170 +	121
TOTAL TESTS SCHEDULED		1911			

*Includes accelerated aging, cleaning, growth rate, fluorescence (F), identification, cold test or other research.

SEED INSPECTORS' WORK 1978

In addition to the 835 official samples collected, the Seed Inspectors issued 19 stop sale orders against approximately 95 other lots of seed which were inadequately labeled, mostly because of having expired test dates.

TOBACCO SEED SERVICE 1978

The Seed Laboratory cleaned 5 lots of tobacco seed with a gross weight of 7.6 pounds and a net weight of 6.1 pounds after cleaning. These 5 lots of seed were also tested for germination for tobacco growers in the Commonwealth.

The details of the points of variation are given in the following five tables: Table II Agricultural Seeds, Table III Agricultural Seed Mixtures, Table IV Vegetable Seeds, Table V Flower Seeds, and Table VI Flower Seed Mixtures.

Table VII shows the compliance of all seed dealers listing the number of samples collected which were labeled correctly as well as the number in variation. Table VIII shows the analysis of the different types of variations.

In the tables, notations are also made as to whether the variations are serious (S), minor (M), or technical (T). This classification is based on the following:

Serious (S) is assigned when laboratory findings:

1. Exceed the labeled number by more than the official tolerance for Prohibited Noxious Weed Seeds;
2. Differ from the labeled statement by more than twice the official tolerance for the purity or germination percentage of any Pure Seed component, Weed Seed percentage or number per pound of Restricted Noxious Weed;
3. Show seeds to be treated when not labeled as treated or vice versa.
4. Show seeds to be inherently weak in performance or to deviate highly significantly from labeled information.

Minor (M) is assigned when the laboratory findings:

1. Differ from the label by more than the official tolerance for the purity or germination percentage of any Pure Seed component, Weed Seed percentage, or Noxious Weed Seed;
2. Exceed the labeled percentage by more than twice the official tolerance for Inert Matter or Other Crop Seed;
3. Show inappropriate labeling or exaggerated claims but not grossly mislabeled.

Technical (T) is assigned when laboratory findings:

1. Show the quality of seed is within tolerance of the label but such things as the name or classification of a variety or treatment statement are improperly used.
2. Show the date of test, germination percent or lot number are omitted.
3. Show there are other variations which do not misrepresent the seed.
4. Exceed the labeled percentage by more than the official tolerance for Inert Matter or Other Crop Seed.

DISCREPANCIES FOUND IN OFFICIAL SAMPLES 1978

The following table reports the discrepancies in the labeling of Agricultural seeds for 1978. Of the 62 official samples collected by the State Inspectors, 13 were found to be at variance with the Seed Law.

TABLE 2

DISCREPANCIES FOUND IN LABELING AGRICULTURAL SEEDS (SINGLE KINDS) 1977-1978

LABELER/SHIPPER Seller/Consignee	Lab no., kind, var., lot no., description	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
AGWAY INC. SYRACUSE, N.Y. Cape Ag. Supply Sandwich	78-1, Crop Cover Rye	Variety name or statement "variety unknown" is..	REQUIRED T
		Lot no. is..	REQUIRED T
		Date of germ. test is..	REQUIRED T
CRAWFORD GARDEN SUPPLIES PROVIDENCE, R.I.	78-2040, Ky. 31 tall fescue	Found more than 1% weeds	Sale PROHIBITED S
	78-2045, Ky. bluegrass	Purity % L 85, F 78.08	EXCESSIVELY DEFICIENT S
DERBY SEED CO. DERBY, CONN. Ripley's Hay & Feed Inc., Hanson	78-2, Rye, variety not stated	Variety name or statement "variety unknown" is..	REQUIRED T
	78-3, Crop Cover Rye	Lot no. is..	REQUIRED T
		Variety name or statement "variety unknown" is..	REQUIRED T

DISCREPANCIES FOUND IN LABELING AGRICULTURAL SEEDS (SINGLE KINDS) CONT.

LABELER/SHIPPER Seller/Consignee	Lab no., kind, var., lot no., description	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
FOSTERS SEED & FEED LTD., GRANDE PRAIRIE, ALTA, CANADA Loft's Pedigreed Seed Co., Arlington	78-2089, Creeping red fescue, lot 1064	Complete purity %'s are REQUIRED	T
		Date of germ. test is REQUIRED	T
	78-2090, Creeping red fescue, lot 1065	Complete purity %'s are REQUIRED	T
		Date of germ. test is REQUIRED	T
LOFT'S PEDIGREED SEED CO. BOUND BROOK, N.J. Winslow Nurseries Mashpee	78-443, White clover seed	Variety name or statement "variety unknown" is REQUIRED	T
		Buckhorn plaintain, none declared but found 23/lb. Name and no. per pound under the heading "Restricted Noxious Weed Seed" are.. REQUIRED	M
LOFT'S PEDIGREED SEED CO. ARLINGTON Loft's Arlington	78-2091 Perennial ryegrass	Found annual ryegrass 12.2%, none declared EXCESSIVE	S
STANFORD SEED CO. BUFFALO, N.Y. Stanford Seed Co. Stanford	78-368, Wheat, Winter type, Ticonderoga	Germination % L 90, F 69 EXCESSIVELY DEFICIENT	S
VAUGHAN'S SEED CO. BOUND BROOK, N.J. J.D. Lyon Inc. Cambridge	78-2103, Pennlawn red fescue	Germination% L 95, F 70 EXCESSIVELY DEFICIENT	S
WHITNEY-DICKINSON SEEDS BUFFALO, N.Y. Essex County Coop. Farming Assoc. Topsfield	78-289, Cert. Manhattan per. ryegrass	Germination % L 90, F 80 DEFICIENT	M
	78-292, Merion Ky. bluegrass	Inert material L 45, F 6.4 EXCESSIVE	T

The following table reports the discrepancies in the labeling of mixtures of agricultural seeds for 1978. Of the 86 official samples collected by the State Inspectors, 21 were found to be at variance with the Seed Law.

TABLE III

DISCREPANCIES FOUND IN LABELING MIXTURES OF AGRICULTURAL SEEDS 1978

LABELER/SHIPPER Seller/Consignee	Lab no., Mixture name etc.	DISCREPANCY Serious S Labeled L Minor M Found F Technical T
AGWAY INC. SYRACUSE, N.Y. Cape Agric. Supply Sandwich	78-247, Forage Mix., #3	Alfalfa varieties germ. L 80 + 10 hard, F 71 + 2 hard EXCESSIVELY DEFICIENT S
		Statement "variety not stated" for red clover is.. IMPROPER T
CRAWFORD GARDEN SUPPLIES INC., PROVIDENCE, R.I. King's Dept. Store Brockton	78-2038, Turf King Grass Seed	Other crop seed: L .70% F 2.15% HIGHLY EXCESSIVE S
	78-2041, Mr. Green All Perennial	Weed seeds L .79, F 1.48 More than 1% weed seeds Sale PROHIBITED S
		Purity % Ky. 31 tall fescue, L 68.4, F 62.75 DEFICIENT S
DRUID HILL PARK BALTIMORE, MD. Brook's Discount Store New Bedford	78-18, Bare Spot R Grass Seed & Feed Mix.	Short weight; L 454g, F 430g EXCESSIVELY DEFICIENT S
FARM BUREAU ASSOC. GREENFIELD, MASS. Farm Bureau Assoc. Waltham	78-1146, Athletic Mix.	Purity figures total 99.4% IN ERROR T
LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J. Green Spot Garden Center, Yarmouth	78-250, Green Spot Cape Mix., AMS 380	Purity % perennial ryegrass, L 29.7, F 4.86 Formula UNBALANCED S
	78-251, Green Spot Preferred Mix. AMS 380	Purity annual ryegrass, L 0%, F 13.8% EXCESSIVE S

DISCREPANCIES FOUND IN LABELING MIXTURES OF AGRICULTURAL SEEDS 1978 CONT.

LABELER/SHIPPER Seller/Consignee	Lab no., Mixture name, etc.	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
LOFT'S PEDIGREED SEED Co., BOUND BROOK, N.J. Schafer Farm Nursery Bellingham	78-294, Landscape Mix.	Purity % of Ky. bluegrass L 21.25, F 16.59	DEFICIENT M
		Pennfine perennial ryegrass, L 24.5 but found 32% fluorescent, indicating considerable annual rye grass other than Pennfine	DEFICIENT S
LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J. Winslow Nurseries Inc., Mashpee	78-442, Turf Supreme, Lawn Mix.	Yorktown perennial ryegrass is a course kind	Texture class IMPROPER T
	78-436, Winslow's Grass Seed Mix	Manhattan perennial ryegrass, "perennial" missing	IMPROPER T
		Not a fine textured grass	Texture class IMPROPER T
	78-439, New Eng. Turf Grass Seed Mix.	Yorktown perennial ryegrass is a coarse kind	Texture class IMPROPER T
	78-441, Shady Lawn Seed Mix.	Yorktown perennial ryegrass is a coarse kind	Texture class IMPROPER T
LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J. Loft's Arlington	78-2096, Quick Grow	Purity % red fescue L 0, F 14.31 INFO. REQUIRED S Ky. 31 tall fescue L 29.4, F 14.97	EXC. DEFICIENT S
	78-2097, Loft's Athletic Field Mix.	Ryegrass is a coarse kind	Texture class IMPROPER T
	78-2098, Loft's New Eng. Turf	Ryegrass is a coarse kind	Texture class IMPROPER T
		Must specify perennial or annual ryegrass	MISSING INFORMATION T

DISCREPANCIES FOUND IN LABELING MIXTURES OF AGRICULTURAL SEEDS 1978 CONT.

LABELER/SHIPPER Seller/Consignee	Lab no., Mixture name, etc.	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
LOFT'S PEDIGREED SEED CO., BOUND BROOK, N.J. Loft's Arlington	78-2099, Mustang Pasture Mix.	New Zealand is not a cultivar of per. ryegrass	INACCURATE M
		Found 8.9% annual ryegrass, none declared	Information REQUIRED S
J.D. LYON INC. CAMBRIDGE, MASS. J.D. Lyon Inc. Cambridge	78-2106, Play Yard Lawn Mix.	Ky 31 tall fescue, germ. %, L 90, F 56	EXCESSIVELY DEFICIENT S
MASS. NURSERYMEN'S ASSOC., BOSTON, MA. Laughton's Garden Center, No. Chelmsford	78-1122, Sun or Shade Mass. Turf Mix.	Ky. bluegrass purity % L 17.00, F 14.77	DEFICIENT M
		Red fescue germ.% L 85, F 66	EXCESSIVELY DEFICIENT S
SEABOARD SEED CO. BRISTOL, ILL. Littlefield-Wyman Inc. Abington	78-2113, Sturdy Lawn Seed Mix.	Germ. red fescue, L 85 F 73	DEFICIENT M
TURF RESEARCH INC. GRANT PARK, ILL. K-Mart Rockland	78-2051-B, Campus Green Grass Seed Mix.	Poa annua found 36/lb. Name and no. per lb. under heading "Restricted Noxious Weed Seeds" is	REQUIRED S
	78-2052, Custom Grass Seed Mix.	Approx. 2000 orchardgrass seeds per lb. found, suggests term "custom" is..	MISLEADING T

The following table reports the discrepancies in the labeling of vegetable seeds for 1978. Of the 474 samples collected by the State Inspectors, 14 were found to be at variance with the Seed Law.

TABLE 4

DISCREPANCIES FOUND IN LABELING VEGETABLE SEEDS 1978

LABELER/SHIPPER Seller/Consignee	Lab no., kind, Var., lot no., description	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
AGWAY INC. SYRACUSE, N.Y. Agway Inc. Bellingham	78-319, Broccolli Early One, #R1	Short weight; L 870 mg. F 800 mg.	EXCESSIVELY DEFICIENT S
W.A. BURPEE CO. WARMINSTER, PA. Green Thumb Plymouth	78-63, Carrot Nantes Half - Long, #6003-0	"Half-long is not part of the variety name	INAPPROPRIATE T
	78-71, Lettuce, Burpee's Iceberg Lot 6051-0	One packet found empty but declared to contain 680 mg of seed	IN ERROR S
W.A. BURPEE CO. WARMINSTER, PA. Laughton's No. Chelmsford	78-1080, Onion, Evergreen, Long White Bunching	Short weight, 2 pckts. L 2.4g, F 1.2 and 1.8 g	EXCESSIVELY DEFICIENT S
W.A. BURPEE CO. WARMINSTER, PA. Two Guys Springfield	78-3012, Carrot Nantes Half Long Lot 6003-0	"Half long" is not part of the variety name	INAPPROPRIATE T
COMSTOCK, FERRE & CO. WETHERSFIELD, CONN. Essex Co. Coop. Topsfield	78-1045, Chicory Catalogna, #2482	Germination % Standard 65, F 52	BELOW STANDARD M
EXCEL SEED CO. DOWNER'S GROVE, ILL. Woolworth's Brockton	78-2062, Spinach Bloomsdale, Long Standing, Run 3	Short weight; L 4g, F 3.81, 3.93, 3.84g	DEFICIENT M
FREDONIA SEED CO. FREDONIA, N.Y. Sawyer's Worcester	78-1001, Onion, Yellow, Sweet Spanish, Code E	Germination standard 70 F 45	UNFIT FOR SEEDING S
HARRIS SEEDS ROCHESTER, N.Y. J. Cassidy Ma. Dept. Ag. Boston	78-2503, Radish, Champion, # 708-4708	Labeled radish, but contained lettuce seeds only	MISREPRESENTED S

TABLE 4 CONT.

DISCREPANCIES FOUND IN LABELING VEGETABLE SEEDS 1978

LABELER/SHIPPER Seller/Consignee	Lab no., kind, var., lot no., description	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
HART SEEDS WETHERSFIELD, CONN. Comm. Feed Store E. Longmeadow	78-3040, Lettuce Black Seeded Simpson, Lot 1	Short weight; L 1.13g, F 1.06g & .99g	DEFICIENT M
NORTHRUP KING & CO. MINNEAPOLIS, MN. W.E. Aubuchon Co. Inc. Franklin	78-392, Anise #7331	Short weight; L 800mg, F 610mg & 630mg	EXCESSIVELY DEFICIENT S
	78-393, Basil, Sweet, #7333	Short weight; L 650mg, F 630mg, 620mg, 610mg	EXCESSIVELY DEFICIENT S
THOMPSON & MORGAN SOMERDALE, N.J. Spag's Supply Shrewsbury	78-1055 Chinese Celery, #7/1516G	Germination % L 76, F 35	UNFIT FOR SEEDING S

The following table reports the discrepancies in the labeling of flower seeds for 1978. Of the 206 samples collected by the State Inspectors, 29 were found to be at variance with the Seed Law.

TABLE 5

DISCREPANCIES FOUND IN LABELING FLOWER SEEDS 1978

LABELER/SHIPPER Seller/Consignee	Lab no., kind, Var., lot no., description	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
AMERICAN SEED CORP. NEW HAVEN, MI. Rich's Plymouth	78-83, Zinnia, Cactus Flowered, Floradale Scarlet Lot #D	Short weight; L 590mg, F 540mg, 500mg, 570mg	EXCESSIVELY DEFICIENT S
APPLEWOOD SEED CO. LAKEWOOD, COLO. Cape Agric. Supply Sandwich	78-74, Wild Forget-Me-Not, #104	Germination %, Standard 50, F 9	UNFIT FOR SEEDING S
W.A. BURPEE CO. WARMINSTER, PA. Walmsley's Garden Ctr. Chelmsford	78-1127, Marigold Goldie (Dwarf Dble. French), #3212-1	Germination %, Standard 65, F 1	UNFIT FOR SEEDING S

TABLE 5 CONT.

DISCREPANCIES FOUND IN LABELING FLOWER SEEDS 1978

LABELER/SHIPPER Seller/Consignee	Lab no., kind, var., lot no., description	DISCREPANCY Serious S Labeled L Minor M Found F Technical T
W.A. BURPEE CO. WARMINSTER, PA. Walmsley's Garden Ctr. Chelmsford	78-1128, Marigold Gypsy, Mixed Clrs. #3192-0	Germination %, Standard 65, F 0 UNFIT FOR SEEDING S
	78-1129, Marigold, Naughty Marietta, #4141-0	Germination %, Stand- 65, F 2 UNFIT FOR SEEDING S
W.A. BURPEE CO. WARMINSTER, PA. Two Guys Springfield	78-3030, Zinnia, Dream, Giant Flwrd. # 3555-0	"Giant Flowered" is not part of the variety name INAPPROPRIATE T
COMSTOCK, FERRE & CO. WETHERSFIELD, CONN. Essex County Coop. Farming Assoc., Topsfield	78-235, Foxglove, Foxy, #1598	Germination %, Standard 60, F 30 UNFIT FOR SEEDING S
	78-242, Zinnia, Cherry Buttons #1640	Short weight; L 300mg, F 270mg, 290mg, 270mg DEFICIENT M
EXCEL SEED CO. DOWNER'S GROVE, ILL. Toabe's Hdwe. Marshfield	78-108, Aster, Giant Crego, Mixed Colors, Run 1	Germ. %, L 60, F 3 UNFIT FOR SEEDING S
	78-111, Calif. Poppy, Mission Bells, Run 1	Badly contaminated with 60% by weight of Brassica spp. IN ERROR S
	78-116, Marigold, Crackerjack	Short weight; L 500mg, F 350mg EXCESSIVELY DEFICIENT S
	78-118, Marigold, Sparky, Run 1	Short weight; L 500mg, F 400mg, 300mg EXCESSIVELY DEFICIENT S
	78-121, Petunia, Fire Chief, Run 1	Germ. %, Standard 45, F 11 UNFIT FOR SEEDING S

TABLE 5 CONT.

DISCREPANCIES FOUND IN LABELING FLOWER SEEDS CONT.

LABELER/SHIPPER Seller/Consignee	Lab no., kind, var., lot no., description	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
EXCEL SEED CO. DOWNER'S GROVE, ILL. Toabe's Hdwe. Marshfield	78-126, Verbena, Dwarf Master Blend Run 1	Short weight; L 450mg, F 380mg, 410mg	
		EXCESSIVELY DEFICIENT	S
	78-128, Zinnia, Peppermint Stick, Run 1	Short weight; L 600mg, F 400mg	
		EXCESSIVELY DEFICIENT	S
	78-129, Zinnia, Thumbelina, Run 2	Short weight; L 375mg, F 300mg, 330mg	
		EXCESSIVELY DEFICIENT	S
FERRY MORSE SEED CO. FULTON, KY. Chatham Hdwe. Chatham	78-228, Marigold, Petite, Mixed Clrs. #203 A	Short weight; L 401mg, F 360mg, 320mg	
		EXCESSIVELY DEFICIENT	S
	78-230, Petunia, Happy Talk, Mixed Colors, #240 P	Germ. %, Standard 45, F 21	
		UNFIT FOR SEEDING	S
FERRY MORSE SEED CO. FULTON, KY. So. Yarmouth Hdwe. So. Yarmouth	78-369, Aster, Crego, Mixed Clrs. #94	Germ. % Standard 55, F 34	
		UNFIT FOR SEEDING	S
	78-374, Zinnia, Giant, Mixed Clrs. #370	Short weight; L 1.08g, F .42g, .48g	
		EXCESSIVELY DEFICIENT	S
FREDONIA SEED CO. FREDONIA, N.Y. Faietti Hdwe. Middleboro	78-191, Zinnia, Calif. Giants, Mixed Clrs.	Short weight; L 820mg, F 700mg, 690mg	
		EXCESSIVELY DEFICIENT	S
C.C. HART SEED CO. WETHERSFIELD, CONN. Schafer Farm Nursery Bellingham	78-298, Aster, Crego, Mixed Clrs. #2	Germ. % Standard 55, F 30	
		UNFIT FOR SEEDING	S
	78-302, Candy-Tuft, Dwarf Hybrids, Mixed Colors, Lot 2	Germ. %, Standard 65, F 45	
		BELOW STANDARD	M

TABLE 5 CONT.

DISCREPANCIES FOUND IN LABELING FLOWER SEEDS 1978

LABELER/SHIPPER Seller/Consignee	lab no., kind, var., lot no., description	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
C.C. HART SEED CO. WETHERSFIELD, CONN. Schafer farm Nursery Bellingham	78-304, Helichrysum, Mixed, #2	Germ. %, Standard 60, F 40	
		BELOW STANDARD	M
	78-307, Marigold, Petite, Mixed Clrs. #3	Germ. % Standard 65, F 25	
		UNFIT FOR SEEDING	S
LOFT'S PEDIGREED SEED CO. BOUND BROOK, N.J. Tri-Center No. Easton	78-133, Marigold, French Dwarf, Dble. Mix. Colors	Short weight; L 250mg, F 200mg, 210mg, 210mg	
		EXCESSIVELY DEFICIENT	S
NORTHRUP, KING & CO. MINNEAPOLIS, MN. Woolworth Co. Brockton	78-2071, Aster, Crego-Wilt, Resistant Purple, #5163	Germ. % Standard 55, F 15	
		UNFIT FOR SEEDING	S
PAGE SEED CO. GREENE, N.Y. J.H. Fairbanks True Value Hdwe. Bridgewater	78-145, Dahlia, Unwin's Dwarf Hybrid Mixed	Short weight; L900mg, F 600mg	
		EXCESSIVELY DEFICIENT	S
	78-151, Phlox, Drummondi, Mixed Colors	Short weight, L 500mg, F 370mg	
		EXCESSIVELY DEFICIENT	S
	78-153, Verbena, Mixed Colors	Short weight; L 500mg, F 350mg, 310mg	
		EXCESSIVELY DEFICIENT	S

The following table reports the discrepancies found in the labeling of mixtures of flower seeds for 1978. Of the 4 samples collected by the State Seed Inspectors, one was found to be at variance with the Seed Law.

TABLE 6

DISCREPANCIES FOUND IN LABELING FLOWER SEED (MIXTURES) 1978

LABELER/SHIPPER Seller/Consignee	Lab no., kind, var., lot no., description	DISCREPANCY Labeled L Found F	Serious S Minor M Technical T
W.A. BURPEE CO. WARMINSTER, PA. Osterville House & Garden, Osterville	78-35, Annual Beauty-Mixed Flowers for Bedding, #3239-0	Alyssum; one of 6 major components, Germ. %, Standard 60, F 13	UNFIT FOR SEEDING S

COMPLIANCE TO THE SEED LAW 1978

The following table shows how the major labelers or shippers complied with the Massachusetts Seed Law. The names listed are those of the seed companies, wholesale suppliers, prominantly advertised divisions of larger firms, or trade names appearing in large letters on the label.

The table shows for each supplier, the number of samples collected for each kind group, and the number in each group found to be discrepant. The numbers of serious, minor and technical discrepancy counts are also shown in the last three columns.

TABLE 7

COMPLIANCE OF SEED DEALERS TO THE SEED LAW 1978

LABELER/SHIPPER Seller/Consignee	Kind Group	Tested Number Samples	Complied Number Samples	DISCREPANCY Number Samples	No. of Counts S	M	T
ADVANCE SEED CO. FULTON, KY.	Veg.	5	5	-	-	-	-
AGWAY INC. SYRACUSE, N.Y.	Ag.	6	5	1	-	-	3
	Mix.	9	8	1	-	-	3
	Veg.	23	22	1	1	-	-
AMERICAN SEED CO. NEW HAVEN, MI.	Veg.	18	18	-	-	-	-
	Fl.	8	7	1	1	-	-
APPLEWOOD SEED CO. LAKEWOOD, CO.	Veg.	13	13	-	-	-	-
	Fl.	6	5	1	1	-	-
ASGROW-MANDEVILLE CAMBRIDGE, N.Y.	Veg.	14	14	-	-	-	-
THE BISHOP CO. LEBANNON, PA.	Mix.	3	3	-	-	-	-
JAMES P. BROWN CO. WORCESTER, MA.	Mix.	1	1	-	-	-	-

TABLE 7 CONT.

LABELER/SHIPPER Seller/Consignee	Kind Group	Tested Number Samples	Complied Number Samples	DISCREPANCY Number Samples	No. of Counts S	M	T
W.A. BURPEE CO. WARMINSTER, PA.	Veg.	71	67	4	2	-	2
	Fl.	33	28	5	4	-	1
COMSTOCK, FERRE WETHERSFIELD, CONN.	Veg.	21	20	1	-	1	-
	Fl.	9	7	2	1	1	-
CRAWFORD GARDEN SUPPLIES, PROV., R.I.	Ag.	4	2	2	2	-	-
	Mix.	9	7	2	3	-	-
CROSMAN SEED CORP. E. ROCHESTER, N.Y.	Mix.	1	1	-	-	-	-
	Veg.	8	8	-	-	-	-
DERBY SEED CO. DERBY, CONN.	Ag.	4	2	2	-	-	3
DRUID HILL PARK BALTIMORE, MD.	Mix.	1	-	1	1	-	-
EXCEL SEED CO. DOWNER'S GROVE, ILL.	Veg.	28	27	1	-	1	-
	Fl.	29	21	8	8	-	-
FARM BUREAU ASSN. GREENFIELD, MA.	Ag.	1	1	-	-	-	-
	Mix.	4	3	1	-	-	1
FARM BUREAU ASSN. WALTHAM, MA.	Mix.	1	1	-	-	-	-
FARM BUREAU SEED WAREHOUSE, GREEN - FIELD, MA.	Ag.	2	2	-	-	-	-
FERRY-MORSE SEED CO., FULTON, KY.	Veg.	32	32	-	-	-	-
	Fl.	17	13	4	4	-	-
FREDONIA SEED CO. FREDONIA, N.Y.	Veg.	31	30	1	1	-	-
	Fl.	12	11	1	1	-	-
FOSTER SEED LTD. GRANDE PRAIRIE, ALTA., CANADA	Ag.	4	2	2	-	-	4
J. HARRIS CO. ROCHESTER, N.Y.	Veg.	7	6	1	1	-	-
	Fl.	4	4	-	-	-	-
C.C. HART SEED CO. WETHERSFIELD, CONN.	Mix.	3	3	-	-	-	-
	Veg.	40	39	1	-	1	-
	Fl.	21	17	4	2	2	-

TABLE 7 CONT.

LABELER/SHIPPER Seller/Consignee	Kind Group	Tested Number Samples	Complied Number Samples	DISCREPANCY Number Samples	No. of Counts S	M	T
HARVEY-CAREY CO. BUFFALO, N.Y.	Mix.	1	1	-	-	-	-
LOFT'S PEDIGREED SEED CO., ARLINGTON, MA.	Ag.	6	4	2	1	1	1
	Mix.	18	7	11	6	2	8
	Veg.	14	14	-	-	-	-
	Fl.	9	8	1	1	-	-
J.D. LYON INC. CAMBRIDGE, MA.	Mix.	7	6	1	1	-	-
MASS. NURSERYMEN'S ASSOC., BOSTON	Mix.	5	4	1	1	1	-
MICHAEL-LEONARD GRANT PARK, ILL.	Veg.	8	8	-	-	-	-
NORTHRUP KING MINNEAPOLIS, MN.	Veg.	51	49	2	1	1	-
PAGE SEED CO. GREENE, N.Y.	Veg.	25	25	-	-	-	-
	Fl.	15	12	3	3	-	-
JEROME B. RICE DOWNER'S GROVE, ILL.	Veg.	8	8	-	-	-	-
SEABOARD SEED CO. BRISTOL, ILL.	Mix.	1	-	1	-	1	-
SEED CORP. AMERICA BALTIMORE, MD.	Mix.	2	2	-	-	-	-
SEEDWAY INC. HALL, N.Y.	Ag.	2	2	-	-	-	-
	Veg.	44	44	-	-	-	-
	Fl.	13	13	-	-	-	-
STANFORD SEED CO. BUFFALO, N.Y.	Ag.	14	13	1	1	-	-
	Mix.	10	10	-	-	-	-
THOMPSON & MORGAN FARMINGDALE, N.Y.	Veg.	7	6	1	1	-	-
TURF RESEARCH INC. GRANT PARK, ILL.	Ag.	3	3	-	-	-	-
	Mix.	4	2	2	1	-	1
VAUGHAN'S SEED CO. BOUND BROOK, N.J.	Ag.	6	5	1	1	-	-
	Veg.	9	9	-	-	-	-
WHITNEY-DICKINSON BUFFALO, N.Y.	Ag.	11	9	2	-	1	1
	Mix.	7	7	-	-	-	-
TOTALS		834	750	78	53 +	13 +	26
					= 92		

ANALYSIS OF SEED LAW DISCREPANCIES 1978

The following table shows the analysis of the points of discrepancy found in the labeling of seeds for the 1978 season.

TABLE 8
ANALYSIS OF SEED LAW DISCREPANCIES 1978

OFFICIAL SEED SAMPLES	Agric. Single	Agric. Mix.	Veg. Seed	Fl.	Fl. Mix.	Total
Number of Samples Collected	62	86	477	206	4	835
Number of Samples Discrepant	13	20	13	29	1	76
% of Samples Discrepant	21%	23%	2.7%	14.1 %	25%	9.1%
Number of Discrepancy Counts	19	29	13	30	1	92

Analysis of the 92 counts

SERIOUS discrepancies found:						
Purity - wide disparity	2	8	-	-	-	10
Germ. - wide deficiency	2	3	2	12	1	20
Misrepresentation	-	-	1	1	-	2
Omission of Noxious Weed Statement	1	1	-	-	-	2
Excessive weed seeds	-	1	-	-	-	1
Other Crop seed excessive	-	-	-	-	-	0
Short weight; excessively deficient	-	1	5	13	-	19
Total SERIOUS	5	14	8	26	1	54
MINOR discrepancies found;						
Purity disparity	-	2	-	-	-	2
Germ. deficiency	1	1	1	2	-	5
Information inadequate	-	1	-	-	-	1
Restricted noxious weeds found but not in excess of tolerance	1	-	-	-	-	1
Short weight - deficient	-	-	2	1	-	3
Total MINOR	2	4	3	3	0	12
TECHNICAL discrepancies found:						
Kind/Variety name improper	-	3	2	1	-	6
Texture class inproper	-	6	-	-	-	6
Omission of other info.	11	-	-	-	-	11
Mistakes	-	1	-	-	-	1
Inert material excessive	1	-	-	-	-	1
Information misleading	-	1	-	-	-	1
Total TECHNICAL	12	11	2	1	0	26
GRAND TOTAL	19	29	13	30	1	92

SUMMARY 1978

The results of the inspections and analyses of the official seed samples for the year ending June 30, 1978 revealed that 77 or 9.2% of the 834 official samples were at variance with at least one point of the Massachusetts Seed Law. There were 92 counts of discrepancies, 54 Serious, 12 Minor and 26 Technical. As in former years, the major problems in the Serious category were wide disparities in the purity percentages, wide deficiencies in the germination percentages and short weights found in flower packets. Minor problems were scattered; and improper classification of texture classification and omission of certain required information were the chief technical discrepancies.

CONCLUSIONS

The Seed Laboratory has again shown the value of the Seed Law with its program of monitoring and testing of representative samples of all seed sold in the Commonwealth. The Laboratory serves as an effective deterrent from the sale and use of poor quality seed and encourages the movement of good seed in commercial channels to the benefit of both the purchaser and the honest dealer.

INSPECTION OF COMMERCIAL FERTILIZER AND AGRICULTURAL LIME PRODUCTS

Report Number 105 For Fiscal Year Ending 1978

by the Feed, Seed, and Fertilizer Staff of
the Feed, Seed, and Fertilizer Laboratory
West Experiment Station, Amherst, Massachusetts

UNIVERSITY OF MASSACHUSETTS
COLLEGE OF FOOD AND NATURAL RESOURCES
AGRICULTURAL EXPERIMENT STATION

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Mixtures Substantially Complying With Guarantees

Manufacturer & Brand	Samples Analyzed
Agrico Chemical Corporation	
Agrico Fertilizer 8-16-16	1
Agrico Fertilizer 5-10-5	1
Agrico Fertilizer 6-12-12	1
K-M Plant Food 0-20-20	1
K-M Plant Food 14-14-14	1
K-M Plant Food 0-10-30	1
K-M Plant Food 20-10-15	1
K-M Plant Food 15-10-10	1
K-M Plant Food 5-8-30	1
K-M Plant Food 5-10-10	2
Agrico Fertilizer 0-20-0	2
Agrico Fertilizer 10-20-10	1
Agrico Fertilizer 10-20-20	1
Agrico Fertilizer 0-15-30	1
Agrico Fertilizer 5-10-10	1
Agrico Fertilizer 15-8-12	1
K-M Plant Food 10-10-10	2
K-M Plant Food 8-12-12	1
K-M Plant Food 8-0-16	1
K-M Plant Food 5-20-20	1
Agrico Fertilizer 10-6-4	2
Agway Incorporated	
Agway Ferti-Flow 14-14-14	1
Agway Grassroots 19-11-7	1
Agway Start-N-Gro 16-32-16	1
Agway Sol-U-Green 20-20-20	1
Agway Ferti-Flow 18-46-0	1
Agway Green Lawn 10-5-5	1
Agway Plant Food 5-10-10	6
Agway Ferti-Flow 10-15-15	2
Agway Turfood Special 10-6-4	6
Agway Plant Food 10-10-10	6
Agway Corn Starter 10-20-10	3
Agway Ferti-Flow 10-20-20	5
Agway Garden Plant Food 5-10-5	3
Agway Ferti-Flow 15-15-15	2
Agway Evergreen Plant Food 8-4-4	2
Agway Grass Roots 20-12-8	3
Agway Green Lawn Plus 21-5-7	8
Agway Green Lawn Plus 20-5-7	3
Agway Green Lawn Plus 22-6-8	5
Agway Ferti-Flow Plant Food 15-8-12	3

Mixtures Substantially Complying with Guarantees (Cont'd)

Manufacturer & Brand	Samples Analyzed
Agricultural Products Co., Inc.	
Apco Organic Lawn Food 5-4-0	1
Super Turf King Lawnfood 10-6-4	1
Blue Ribbon Lawn & Garden Fertilizer 5-10-5	1
Apco University Lawn Fertilizer 20-10-5	1
Cadwell & Jones Inc.	
C&J Specialty Fertilizer 10-6-4	1
C&J Hi-Organic Fertilizer 10-6-4	1
C&J Specialty Fertilizer 14-4-6	1
C&J Surge Plant Food 5-10-10	1
Chevron Chemical Company	
Ortho Weed & Feed 25-3-7	3
Ortho Lawn Food 24-4-8	4
Ortho Upstart Pool Stimulator 5-15-5	1
Ortho Fish Emulsion Fertilizer 5-1-1	1
Ortho Tomato & Vegetable Food 6-18-6	1
Ortho Pot & Planter Food 5-10-5	2
Ortho Vegetable Plant Food 5-10-10	1
Ortho General Purpose Plant Food 12-6-6	1
Clinton Nursery Products Inc.	
New Era Fish Emulsion Fertilizer 5-1-1	1
New Era Plant Food 7-15-8	1
New Era African Violet Food 5-12-9	1
Farm Bureau Assn. (Lebanon)	
Estate Fertilizer Lawn & Turf 10-6-4	1
The Fer-Mel Corporation	
Fer-Mel Premium Lawn Food 25-5-10	1
Heritage House Products	
Heritage House Crab Grass Control & Lawn Fertilizer 11-4-7	1
Heritage House Lawn Food 21-6-11	1
Heritage House Systemic Weed & Feed Plus 11-4-7	1
A.H. Hoffman Incorporated	
Hoffman Garden Fertilizer 5-10-10	1
Hoffman Rose Food 6-10-8	1
The Hyponex Company, Inc.	
Hyponex House Plant Food 7-6-19	1
The Hytrous Corporation	
Hy-Trous Liquid Fertilizer 5-10-5	1

Mixtures Substantially Complying With Guarantees (Cont'd)

Manufacturer & Brand	Samples Analyzed
International Spike Inc.	
Jobe's Evergreen Spikes 12-6-8	1
K-Mart Corporation	
K-Gro Liquid Plant Food 12-6-6	1
Garden Grow 6-10-12	1
Evergreen Food 9-6-5	1
Tomato Food 5-8-12	1
Kerr-McGee Chemical Company	
K-M Luxura Lawn Food 23-5-5	1
K-M Premium Quality Fertilizer 10-10-10	3
K-M Premium Quality Fertilizer 5-10-10	5
K-M Plant Food 5-10-5	6
K-M Turf & Tree Food 12-4-8	4
K-M Nitro Ganic Fertilizer 5-4-0	2
K-M Rose Food 7-10-5	1
K-M Evergreen Food 4-10-4	2
K-M Lawn Food 10-6-4	3
K-M Weed & Feed 10-6-4	1
Lebanon Chemical Company	
Lebanon Green Gold Multi-Purpose Fertilizer 10-10-10	3
Lebanon A.C.R.E.Fertilizer 6-7-5	2
Lebanon Country Club Fertilizer 12-4-8	2
Lebanon Green Gold Lawn Food 26-4-6	2
Lebanon Green Gold Feed & Weed Lawn Food 25-3-5	2
Greenview Crabicide Green 22-4-4	1
Greenview Winter Green 10-18-10	4
Greenview Modern Treble Spring Lawn Treatment 16-8-4	2
Greenview Two-Way Green Power 30-4-4	9
Greenview Spring Tonic	5
Garden Spot Tree & Shade Fertilizer 10-6-4	2
Green Gold Crabgrass Control 10-6-4	2
Greenskeeper Fertilizer 20-4-10	1
Lebanon Agrinite 7-2-0	1
Lebanon Country Club Fertilizer 20-0-10	1
Garden Spot Lawn & Garden Fertilizer 5-10-5	1
Lebanon Plant Food 5-10-10	1
Leeming Division, Pfizer Incorporated	
House in Bloom Foliage Plant Food 2-2-2	1
House in Bloom All Purpose 7-7-7	1
House in Bloom 100% Organic Plant Food 5-5-4	1
Loft's Pedigreed Seed Company	
Loft's Professional Lawn Food 25-5-10	1

Mixtures Substantially Complying With Guarantees (Cont'd)

Manufacturer & Brand	Samples Analyzed
Massachusetts Nurserymen's Association	
M.N.A. Turf Kleen 20-10-5	2
M.N.A. Country Gardener 5-10-5	4
M.N.A. Turf-O-Ganic 10-6-4	4
M.N.A. Plant-O-Ganic 8-8-8	3
Minnesota Mining & Manufacturing Co.	
Precise Timed Release Tomato Food 6-18-6	1
Precise Timed Release African Violet Food 8-11-2	*2*
Montgomery Buck (Farm Bureau Coop.Assn.)	
Farm Bureau Plant Food 10-10-10	1
Farm Bureau Plant Food 10-20-20	1
Farm Bureau Plant Food 5-10-10	1
Farm Bureau Plant Food 0-15-30	1
Nassau Garden Incorporated	
Glorion Evergreen Fertilizer 8-8-8	1
Glorion Lawn & Garden Fertilizer 10-6-4	1
Glorion Lightweight Grass Food 24-4-6	1
Glorion Deluxe Grass Food 12-8-4	1
Old Fox Chemical Company	
Old Fox Lawn Gro 10-6-4	2
Old Fox Turf Food 10-6-4	2
Old Fox Velvet Green 8-6-4	1
Old Fox Super Lawn Food 15-4-8	1
Old Fox Power Granules 30-3-10	1
Old Fox Acid Soil Plants 6-10-6	1
Old Fox Fertilizer 5-10-5	1
Old Fox Fertilizer 15-10-10	1
Old Fox Fertilizer 10-20-20	1
Plantabbs Corporation	
Plantabbs African Violet Plant Food 11-15-20	1
Ra-Pid-Gro Corporation	
Ra-Pid-Gro Soluble Plant Food 23-19-17	1
O.M. Scotts & Sons	
Scotts Plus 2 Turf Builder 25-3-3	*13*
Scotts Turf Builder 26-3-3	*11*
Scotts Super Turf Builder 32-4-4	*4*
Scotts Turf Builder Plus Halts 2-3-3	*4*
Scotts Spoon Fed Care House Plant food 20-10-10	*1*
Scotts Grow Flowers 18-12-14	*1*
Scotts Lawn Insect Control & Fertilizer 27-6-4	*1*
Scotts Crabgrass Preventer & Dandelion Care 20-6-6	*1*
Scotts Grow Shrub & Trees 20-4-8	*1*
Scotts Vegetable Fert. 18-24-6	*4*
Scotts Starter Fertilizer 16-21-5	*2*
Scotts Super Turf Builder 36-4-4	*1*

Mixtures Substantially Complying with Guarantees (Cont'd)

Manufacturer & Brand	Samples Analyzed
Sears, Roebuck & Co.	
Sears All Purpose Plant Food 5-10-5	1
Sears Super Fine Lawn Food 26-4-6	1
Sears Super Fine Weed & Feed with Dilvex 25-3-5	1
Sears Karpet Green Lawn Food 20-10-5	1
Stern's Nurseries Inc.	
Stern's Miracle Gro Therapy for House Plants 10-8-7	1
Stern's Liquid Miracle Gro House Plant Food 8-7-6	2
Stern's Miracle Gro For Tomatoes 18-18-21	1
Stern's Miracle Gro Soil Acidifier 30-10-10	2
Stern's Miracle Gro Water Soluble Plant Food 15-30-15	1
Stern's Miracle Gro for Roses 18-24-16	1
The Sewerage Commission	
Milwaukee Milorganite 6-2-0	5
Shephard's Fertilizer Company	
Tex-Organic Cow Manure 2-1-2	2
Stanford Seed Company	
Stanford Old English Weed & Feed w/2,4-D 10-6-4	1
Stanford Old English Sod Food 12-4-8	1
Stanford Old English Lawn Food 26-4-6	1
Stanford Old English PreEmergence Crabgrass Killer & Lawn Food 10-6-4	1
Stewart's Nursery Inc.	
Stewart's Country Green Fert. 10-7-4	1
Sudbury Laboratory	
Sudbury Unit X Tailor Made Fertilizer 44-0-0	1
Sudbury Unit Y Tailor Made Fertilizer 0-44-0	1
Sudbury Unit Z Tailor Made Fertilier 0-0-44	1
Swift Chemical Company	
K-Mart Lawn & Garden Fertilizer 10-6-4	1
Golden Vigoro Lawn Fertilizer 18-4-8	2
Golden Vigoro Lawn Fertilizer & Weed Control 18-4-8	2
Vigoro All Purpose Fert. 6-10-4	2
Vigoro Special Formula Fert. for Evergreen 5-9-9	1
Universal Chemical Co.	
Electra Plant Food 5-10-3	1
USS-Agri Chemical Co.	
USS Vertagreen Plant Food 5-10-10.	1
USS Vertagreen Plant Food Double Duty 24-4-9	1
USS Vertagreen Plant Food 2-15-30	1
USS Vertagreen Turf & Tree Food 10-6-4	1
USS Vertagreen Plant Food 10-10-10	1

Mixtures Showing Deficiencies Exceeding Tolerances

Manufacturer & Brand	Nitrogen Found	Available Phosphoric Acid	Water Soluble Protein
Agrico Chemical Company			
K-M Plant Food 6-24-24	6.2	27.5	19.0**
K-M Plant Food 15-15-15	15.8	14.14	13.3**
K-M Plant Food 15-8-12	13.8**	8.3	10.9**
Agrico Fertilizer 0-10-30.....		6.4**	29.3
Agrico Fertilizer 14-14-14....	13.9	12.1**	14.4
Mor Turf 32-0-15	36.4		12.6**
K-M Plant Food 8-10-10-3.....	8.2	7.2**	9.9
K-M Plant Food 8-12-12	10.2	12.4	9.4**
K-M Plant Food 10-30-15	9.9	29.6	13.9**
K-M Plant Food 6-24-24	5.9	26.0	19.0**
K-M Plant Food 10-0-40	7.3**		29.4**
K-M Plant Food 15-12-12	12.0**	13.3	13.4
K-M Plant Food 10-10-10	8.8**	23.2***	12.2
Agrico Fertilizer 10-10-10....	7.3**	8.9**	10.5
Agrico Fertilizer 10-10-10....	14.0	12.5	8.8**
Agrico Fertilizer 10-10-10....	17.0***	12.5	9.2
Agrico Fertilizer 10-10-10 ...	17.7**	9.6	11.1
K-M Plant Food 5-10-10	4.6	8.3**	11.7
Agrico Fertilizer 5-10-10.....	4.7	8.8**	10.9
K-M Plant Food 10-20-20	8.6**	15.3**	19.7
Agrico Fertilizer 5-10-5	4.8	8.7**	5.1
K-M Plant Food 8-16-16	10.2	16.7***	11.2
K-M Plant Food 10-20-20	9.7	18.2**	19.4
K-M Plant Food 10-20-10	8.8**	16.4**	11.2
K-M Plant Food 0-10-40		12.7	35.6**
Agway Incorporated			
Agway Alfa B 0-10-40		12.4	37.1**
Agway Greenlawn Plus 22-6-8...	23.5	6.8	7.0**
Agway Plant Food 10-10-10.....	9.3	10.8	8.9**
Agway Ferti-Flow 15-15-15.....	15.5	15.8	13.6**
Agway Plant Food 5-10-10	4.7	9.5	8.4**
Agway Plant Food 5-10-10.....	6.0	14.2	8.5**
Agway Garden Plant Food 5-10-5	7.8	16.2***	12.5***
Agway Garden Plant Food 5-10-5	4.1	8.9**	7.8
Agway Ferti-Flow 6-24-24	6.0	27.1	20.6**
Agway Ferti-Flow 15-8-12	13.4**	9.0	13.9
Agway Ferti-Flow 15-8-12	15.2	8.8	10.7**
Agway Ferti-Flow 10-20-20	8.7**	18.2**	17.2**
Agway Corn Starter 10-20-10...	9.1	17.1**	11.1
Cadwell & Jones Inc.			
Specialty Fertilizer 19-19-19	22.3	14.4**	18.5
Surge Plant Food 5-10-10	5.2	12.6	8.0**
C&J Plant Food 5-10-5	5.5	9.4	2.7**
C&J Specialty Fertilizer 5-10-5	9.7**	7.2**	4.9
C&J Specialty Fertilizer 10-10-10	9.1**	8.7**	8.4**

**Deficient
***Excessive

Mixtures Showing Deficiencies Exceeding Tolerances (Cont'd)

Manufacturer & Brand	Nitrogen Found	Available Phosphoric Acid	Water Soluble Potash
Chevron Chemical Company			
Ortho Spring Seeding Crab Grass Control Fertilizer 18-3-6	15.7**	3.4	6.3
Clinton Nursery Products Inc.			
New Era Formula 7 Plant Fertilizer Concentrate 15-30-15	12.4**	29.2	22.9***
Faesy & Besthoff Inc.			
F&B Lawn Food 10-6-4	7.1**	5.3	11.5***
A.H. Hoffman Inc.			
Hoffman Organic Vegetable Food 4-4-3.....	5.4	7.1	1.7**
Hoffman Azalea & Evergreen Food 5-10-7	6.1	8.5**	7.7
Hoffman Tomato Food 4-12-12	5.4	18.1***	9.4**
K-Mart Corporation			
Rose Food 7-8-5	3.7**	13.3***	6.3
Kerr-McGee Chemical Company			
K-M Plant Food 5-10-10.....	5.3	9.7	8.4**
Perk Up Plant Food 5-10-5..	4.6	8.9**	3.4**
K-M Premium Quality Fert. 10-10-10	9.1	9.4	7.6**
Lebanon Chemical Company			
Greenview Two-Way Green Power 30-4-4	26.6**	5.1	5.6
Greenview Two-Way Green Power 30-4-4	28.3**	4.5	5.2
Greenview Winter Green 10-18-10	10.5	20.1	8.9**
Greenview Treble Crab Grass Preventer Fert. 16-8-4	15.1	6.3**	3.2**
Greenskeeper Organic Nitrogen Fertilizer 20-4-10	20.4	4.9	8.9**
Lebanon Rose Food 7-7-7....	9.9	8.4	5.9**
A.C.R.E. Fertilizer 6-7-5..	7.4	4.8**	7.5
Loft's Pedigreed Seed Company			
Loft's Lawn Food 24-4-8	26.4	2.7**	8.2

**Deficient
***Excessive

Mixtures Showing Deficiencies Exceeding Tolerances (Cont'd)

Manufacuturer & Brand	Nitrogen Found	Available Phosphoric Acid	Water Soluble Potash
Massachusetts Nurserymen's Assn.			
M.N.A. Country Gardener 5-10-5	6.4	8.8**	3.6**
M.N.A. Turf-O-Ganic 10-6-4 ...	8.8**	4.9**	4.7
M.N.A. Turf-O-Ganic 10-6-4 ...	9.8	4.3**	5.6
Old Fox Chemical Company			
Old Fox Fertilizer 10-10-10...	10.7	6.5**	13.6
Old Fox Fertilizer 8-10-10 ...	7.3	8.1**	13.4
Old Fox Fertilizer 8-16-16 ...	7.3	13.7**	12.5**
Old Fox Fertilizer 4-16-20 ...	2.9**	13.5**	20.0
Old Fox Fertilizer 15-15-15...	16.2	12.7**	11.4**
Old Fox Fertilizer 15-8-12....	13.7**	4.5**	14.5
Old Fox Fertilizer 0-10-30 ...		11.5	24.0**
Old Fox Garden Food 5-10-5 ...	6.0	7.9**	10.4***
Old Fox Lawn Gro 10-6-4	8.6**	4.8**	4.5
Old Fox Fertilizer 5-10-10 ...	7.2	12.3	7.8**
Old Fox Super Turf Food 15-9-6	15.7	6.8**	7.3
Old Fox Fertilizer 10-10-10...	11.3	8.9**	14.3
Old Fox Fertilizer 5-10-10 ...	5.2	6.8**	9.9
Old Fox Garden Food 5-10-5....	6.9	9.5	10.0***
Old Fox Garden Food 5-10-5....	6.9	9.5	10.0***
Universal Chemical Company			
Electra Plant Food 5-10-3.....	4.6	8.5**	3.0
O.M. Scott & Sons			
Scotts Turf Builder Lawn Fert. 27-3-3	26.0	1.9**	3.0
Swift Chemical Company			
K-Mart Lawn & Garden Fert. 5-10-5	4.8	8.8**	4.6
USS Agri Chemical Co.			
USS Vertagreen Plant Food 5-10-5	5.7	10.4	10.4***
USS Vertagreen Lawn & Garden 5-10-5	6.4	11.9	13.5***
USS Vertagreen Lawn Fd 25-5-10 ..	23.9**	5.1	12.5

**Deficient
***Excessive

Nitrogen, Phosphate, & Potash Products

Manufacturer & Brand	Nitrogen	Available Phosphoric Acid	Total Phosphoric Acid	Water Soluble Potash
Agrico Chemical Company				
Agrico Mono Ammonium Phosphate 11-52-0..	11.5	53.1		
Agrico Urea 46-0-0...	46.6			
Agrico Urea 46-0-0...	46.4			
Agrico Urea 46-0-0...	46.0			
K-M Urea 46-0-0	45.4			
K-M Muriate of Potash 0-0-61....				60.4
Agrico Di-Ammonium Phosphate 18-46-0	18.2	45.2		
Agrico Di-Ammonium Phosphate 18-46-0	18.2	42.7**		
K-M Sol-PO-Mag 0-0-22				21.3
K-M Muriate of Potash 0-0-61....				60.5
Agrico Fertilizer 0-20-0.....		20.1		
Agway Incorporated				
Agway Nitrate of Soda 16-0-0.....	15.6			
Agway Cottonseed Meal 6-0-0	6.8			
Agway Sol-PO-Mag 0-0-22.....				22.0
Agway Sol-PO-Mag 0-0-22.....				21.8
Agway Urea Fert. 46-0-0.....	46.3			
Agway urea Fert. 46-0-0	46.7			
Agway Urea Fert. 46-0-0.....	46.6			
Agway Steamed Bone Meal 1-11-0.....	0.53	16.3		
Agway Muriate of Potash 0-0-60...				60.2
Agway Muriate of Potash 0-0-60...				57.7
Agway Muriate of Potash 0-0-60...				59.4
Agway Muriate of Potash 0-0-60...				60.6
Agway Triple Super Phosphate 0-44-0		43.8		
Agway Triple Super Phosphate 0-44-0		44.2		

Nitrogen, Phosphate, & Potash Products (Cont'd)

Manufacturer & Brand	Nitrogen	Available Phosphoric Acid	Total Phosphoric Acid	Water Soluble Potash
Agway Incorporated (Cont'd)				
Agway Triple Super Phosphate 0-44-0.....		44.6		
Agway Diammonium Phosphate 18-46-0....		46.7		
C.F. Industries Inc.				
C.F. Ammonium Nitrate 34-0-0.....	34.2			
C.F. Ammonium Nitrate 34-0-0	34.0			
Faesy & Besthoff Inc.				
F&B Pure Steamed Bone Meal 1-11-0	3.5	13.8		
International Minerals & Chemical Corporation				
Agrico Sol-PO-Mag 0-0-22				22.4
Agrico Sol-Po-Mag 0-0-22				22.0
Kalium Company				
Agrico Muriate of Potash 0-0-61.....				61.0
Kerr-McGee Chemical Co.				
K-M Bone Meal 1-12-0	0.4	17.0	28.6	
K-M Bone Meal 1-12-0	0.6	14.9		
K-M Superphosphate		20.4		
K-M Bone Meal 1-12-0	0.5	19.7		
Lebanon Chemical Company				
Lebanon Concentrate Super Phosphate 0-46-0		45.7		
Massachusetts Nurserymen's Association				
M.N.A. Superphosphate 0-20-0.....		17.7**		
M.N.A. Superphosphate 0-20-0		14.2**		

**Deficient

Pulverized & Composted Animal Manures

Manufacturer & Brand	Total Nitrogen	Total Phosphoric Acid	Water Soluble Potash
Downy Hollow Farm			
Pine Quill Poultry Manure 3-6-3	3.1	5.8	2.9
H-Bar-M Fertilizer Co.			
Tex Gro Dehydrated Cow Manure 2-1-2	2.4	1.3	2.3
Just Right Distributors			
Just Right Cow Manure 2-1-2	2.4	1.7	2.5
R. W. McClellan & Sons, Inc.			
Bovanure Dehydrated Cow Manure 2-1-2 ...	1.9	1.6	2.2
Bovanure Dehydrated Cow Manure 2-1-2 ...	1.8	1.6	1.8
Bovanure Dehydrated Cow Manure 2-1-2 ...	2.3	1.7	2.3
Natural Plant Food Co.			
Longhorn Cattle Manure 1.5-0.5-1 ...	2.0	1.1	1.9
Ocean Farms Company			
Ocean Farms Dehydrated Cow Manure 2-1-2	1.8	0.9	0.9**
Ocean Farms Dehydrated Cow Manure 2-1-2	1.6	1.0	1.2
Organic Compost Corp.			
Ferti-Flow Composted Cow Manure 1-1-1....	0.71	0.90	0.90
Organic Cow Manure 1-1-1	0.95	1.28	1.20
Ferti Life Composted Cow Manure 1-1-1 ...	0.81	0.92	0.91
Pure Tex Cow Manure Co.			
Pure Tex Dehydrated Cow Manure 2-1-2....	2.2	1.54	2.1

**Deficient

Agricultural Lime Products

Manufacturer & Brand	Calcium Oxide Guaranteed	Calcium Oxide Found	Magnesium Oxide Guaranteed	Magnesium Oxide Found
Conklin Limestone Company				
Lawn & Garden Standard Ground Limestone ..	34.0	44.6	1.5	1.8
High Magnesium Agric. Ground Limestone...	28.0	28.0	18.0	19.9
Lawn & Garden Dolomite Limestone	28.0	28.0	18.0	20.6
Lee Lime Corporation				
Lee Double Strength, Hydrate	41.0	42.0	28.0	30.0
Lee Tobey Agra Hydrate	35.0	35.9	25.0	25.8
Lee All Purpose Hydrate Lime	43.0	40.9**	28.0	28.9
Vermont Marble Company				
Free Flowing Granular Limestone	50.0	54.3	1.0	1.2

**Deficient

FERTILIZER REGISTRATIONS AS OF
Dec. 31, 1978

Agrico Chemical Co., P.O. Box 7013, Wilmington, DE 19803
Agway Inc., Box 4933, Syracuse, NY 13221
Alberto-Culver Co., 2525 Armitage Ave., Melrose Park, IL 60160
American Cyanamid Co., P.O. Box 400, Princeton, NJ 08540
American Pelletizing Corp., 7200 Hickman Rd., Box 362B, Des Moines,IA50322
Amway Corporation, 7575 E. Fulton Rd., Ada, Michigan 49355
The Andersons, Tee Time Division, P.O. Box 119, Maumee, OH 45331
Ann & Hope, 1 Mill St., Cumberland, Rhode Island 02864
Atlas Fish Fertilizer Co., 865 Lind Ave., S.W., Benton, WA 98055

The F.A. Bartlett Tree Expert Co., 2770 Summer St., Stamford,CT 06905
Bio-Con Division of Searle Agriculture Inc., Box 993, Hereford,TX 79045
Bio-Catalytic Corporation, 135 W. Rhapsody, San Antonio, TX 78216
Burgess Vibrocrafters, Inc., Rt. 83, Grayslake, IL 60030

Cadwell & Jones Inc., 48 Adams St., Buckland Station, Manchester, CT 06040
Canadian Industries Ltd., P.O. Box 1900, Courtright, Ontario
Carpoole's Inc., Box 32, Garfield, MN 56332
C & E Products Inc., Box 192, Rt. 13, Le Mars, Iowa 51032
Chemargro Industries Inc., 12 La Villita Ct., N.E., Alburquerque,NM 87112
Chevron Chemical Company, Ortho Division, 940 Hensley, Richmond,CA 94804
Ciba-Geigy Corporation, Agricultural Division, P.O. Box 11422, Greensboro, NC 27409
Clinton Nursery Products Inc., Boston Post Rd., Clinton, CT 06413
Conrad Fafard Inc., P.O. Box 3033, Springfield, Ma. 01101
Crawford Gardens Supplies Inc., 589 Atwells Ave., Providence, RI 02999
Custom Service Inc., 6373 Highway So. East, Carson City, NV 89701

The Davey Tree Expert Company, 117 So. Water St., Kent, Ohio 44240
Deco Plants Co., A Div. of Ralston Purina Co., 19575 Katy Freeway, Houston, Texas 77024
DH & R Company, Inc., P.O. Box 333, La Porte, Indiana 46350
Delta Earth Inc., P.O. Box 8045, Chicago, IL 60620
Diamond Crystal Salt Co., 10 Burlington Ave., Wilmington, MA 01887
The Dow Chemical Co., 2030 Dow Center, Midland, Michigan 48640
Druid Hill Park Seed Co., P.O. Box 4404, Baltimore, MD 21223
The C.B. *Dolge* Company, 11 Ferry Lane, West, Westport, CT 06880

Encap Products Co., P.O. Box 278, Prospect, IL 60056

Faesy-Besthoff Inc., 148 River Rd., Edgewater, NJ 07020
Farm Bureau Assn., 158 Lexington St., Waltham, Ma. 02154
Fer-Mel Corporation, 304 Main St., Wethersfield, CT 06109

Fertilizer Registrations

Goulet Trucking Inc., 27 S. Maple St., Hadley, Ma. 01035
W.R.Grace & Co., Terra-Lite Products, 62 Whitmore Ave., Cambridge, MA
Greenlife Products Co., Inc., P.O. Box 72, West Point, VA 23181
Earl Grissmar Co., Inc., 7950 Castleway Dr., Indianapolis, IN 46250

Hercules Inc., 910 Market St., Wilmington, DE 19899
Heritage House Products Corp., 787 W. Lafayette Rd, Box 219, Medina, Ohio 44256
H&M Fertilizer Inc., P.O. Box 1542, Old Alpine Highway, Ft. Stockton,TX
A.H. Hoffman Inc., P.O. Box 8, Landisville, PA 17538
The Hyponex Company, Inc., 3489 Sawmill Rd., Copley, Ohio 44321
Hortigro Inc., 243 Merrick Rd., Lynnbrook, NY 15063
Hydro Flora Inc., 5543 McCommas Bluff Rd., Box 8427, Dallas, TX 75205
The Hytrous Corporation, Box 229, 3 Green St., Woburn, Ma. 01801

Jungle Growth Products, 2805 Columbia St., Torrance, CA 90503
J. J. Mauget Co., P.O. Box 3422, Burbank, CA 91504

Koos Inc., 4500 13th Court, Kenoska, Wisconsin 53146

Lawn-A-Mat Chemical & Equipment Co., c/o Rockland Chemical Co., Inc., P.O. Box 809, W. Caldwell, New Jersey 07006
Lebanon Chemical Corp., P.O. Box 180, Lebanon, PA 17042
Leeming Division, Pfizer Inc., 235 East 42nd St., New York, NY 10017
Liqui-Lawn Chemical Corp., 787 W. Lafayette Rd., Box 219, Medina,OH 44256
Loncala Phosphate Co., P.O. Box 766, High Springs, Florida 32643
Lofts Pedigreed Seed Co., Inc., Chimney Rock Rd., Bound Brook, NJ 08805
John D. Lyon, Inc., 143 Alewife Brook Pkwy., Cambridge, Ma. 02140

Massachusetts Nurseries Inc., 715 Boylston St., Boston, Ma. 02116
Medina Agricultural Products Co., Inc., P.O. Box 309, Highway 90-West, Hondo, Texas 78861
Metra Chemical Corp., P.O. Box 5278, Turnpike Station, Shrewsbury, MA 01545

Nassau Garden Inc., 366 North Broadway, Jericho, NY 11753
The Natural Development Co., P.O. Box 215, Bainbridge, PA 17502
The Natural Plant Food Co., P.O. Box 82501, Oklahoma City, OK
New Plant Life, ITc., P.O. Box 45, La Porte, Indiana 46350
Nutri-Sol Chemical Co., Inc., 4508 W. Osborne, P.O. Box 15124, Tampa, Florida 33684

Old Fort Industries Inc., 2013 S. Anthony Blvd., Fort Wayne, IN 46803
Old Fox Industries Inc., with Subsidiary as "Anderson Peat Co.", 2013 S. Anthony Blvd., Fort Wayne, IN 46803
Organic Compost Corp., P.O. Box 11699, Milwaukee, WI 53211

Fertilizer Registrations

Paygro Division, The Mead Corp., Courthouse Plaza, N.E., Dupont, OH 45463
Pecos Feed Yard, Inc., P.O. Box 1712, Pecos, TX 79772
Robert B. Peters, Inc., 2833 Pennsylvania St., Allentown, Pa. 18104
Plant Marvel Laboratories, 2525 Pullman, Santa Ana, CA 92705
Plantabbs Corporation, Timonium, MD 21093
Premier Brands Inc., 350 Madison Ave., New York, NY 10017
Plant Products Co., Ltd., 314 Oreinda Rd., Bramalea, Ontario, Canada
Pro-Lawn Products Inc., Box 4908, Syracuse, NY 13221

Ra-Pid-Gro Corporation, 88 Ossian St., Dansville, NY 14436
Rhodia Inc., Agric. Div., P.O. Box 125, Monmouth Junction, NY 08852
Ringer Corporation, 6860 Flying Cloud Dr., Eden Prairie, MN 55344
Ross-Daniels Inc., 1720 Fuller Rd., P.O. Box 430, West Des Moines, IO 502

Sachem Products Div., Seapro Inc., Box 669, Rockland, Maine 04841
Schultz Company, 11730 Northline, Maryland Heights, Missouri 63043
S&D Products Inc., P.O. Box 66, Prairie du Chien, Wisconsin 53821
O.M. Scott & Sons, Marysville, Ohio 43040
Sea Organic Division of DPM Associates Inc., 195 Boston St., Limman, MA01
Sears, Roebuck, & Co., Dept. 671, Sears Tower, 15th Floor, BSC#15-15, Chicago, IL 60684
The Sewerage Commission, Milwaukee, Wisconsin
Shepard Fertilizer Co., P.O. Box 2925, Amarillo, Texas 79105
Sierra Chemical Co., 1001 Yosemite Dr., Milpitas, CA 95035
Southern Importers Inc., P.O. Box 8616, Greensboro, NC 27410
Stern's Nurseries Inc.,404 Williams St., Geneva, NY 14456
Stewart's Nursery Inc., 135 Millers Falls Rd., Turners Falls, MA 01376
Stim-U-Plant Inc., 2077 Parkwood Ave., Columbus, OH 43219
Sudbury Laboratories, 572 Dutton Rd., Sudbury, MA 01776
Swift Agricultural Chemical Corp., 300 Hospital Dr., Suite 226, Glen Burnie, MD 21061
Swiss Farms Inc., Box F, Philmont, NY 12565
Synthetic Laboratories, Inc., P.O. Box 131, Victor Lane, Dracut, MA 01826
Superbowl Pet Foods Inc., 57-18 48th St., Maspeth, NY 11378
Substral America Inc., 7800 Red Road, Suite 224, So. Miami, FL 33143

Three-M Company, Minnesota Minning & Manufacturing Co., 3-M Center, Bldg., 230-S257,St. Paul, MN 55101
Tupperware Home Parties, A Div. of Dart Industries, Inc., P.O. Box 2353, Orlando, Florida 32802
Turf Specialties Inc., 84 Merrimack St., Hooksett, NH 03106

USS Agri-Chemical, P.O. Box 3478, Baltimore, MD 21226
Universal Chemical Co., Inc., P.O. Box 341, West Lynn, MA 01905

ertilizer Registrations

enturi Inc., Subsidiary of Bissell Inc., P.O.Box 1888, Grand Rapids, Michigan 49501
oluntary Purchasing Groups Inc., P.O. Box 460, Bonham, Texas 75418

arren's Turf Nursery, Inc., 8400 W. 111th St., Palos Park, IL 60464
ilson & Geo. Mayer & Co., 270 Lawrence Ave., So. San Francisco California
egro,Division of Old Fort Industries Inc., for K-Mart Corporation Trog, Michigan
(P.O. Box 288, Grand Rapids, OH 43522)

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BOOKBINDING CO., INC.
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